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PACIFIC PULP and PAPER INDUSTRY

Volume 1
Number 5

JUNE, 1927

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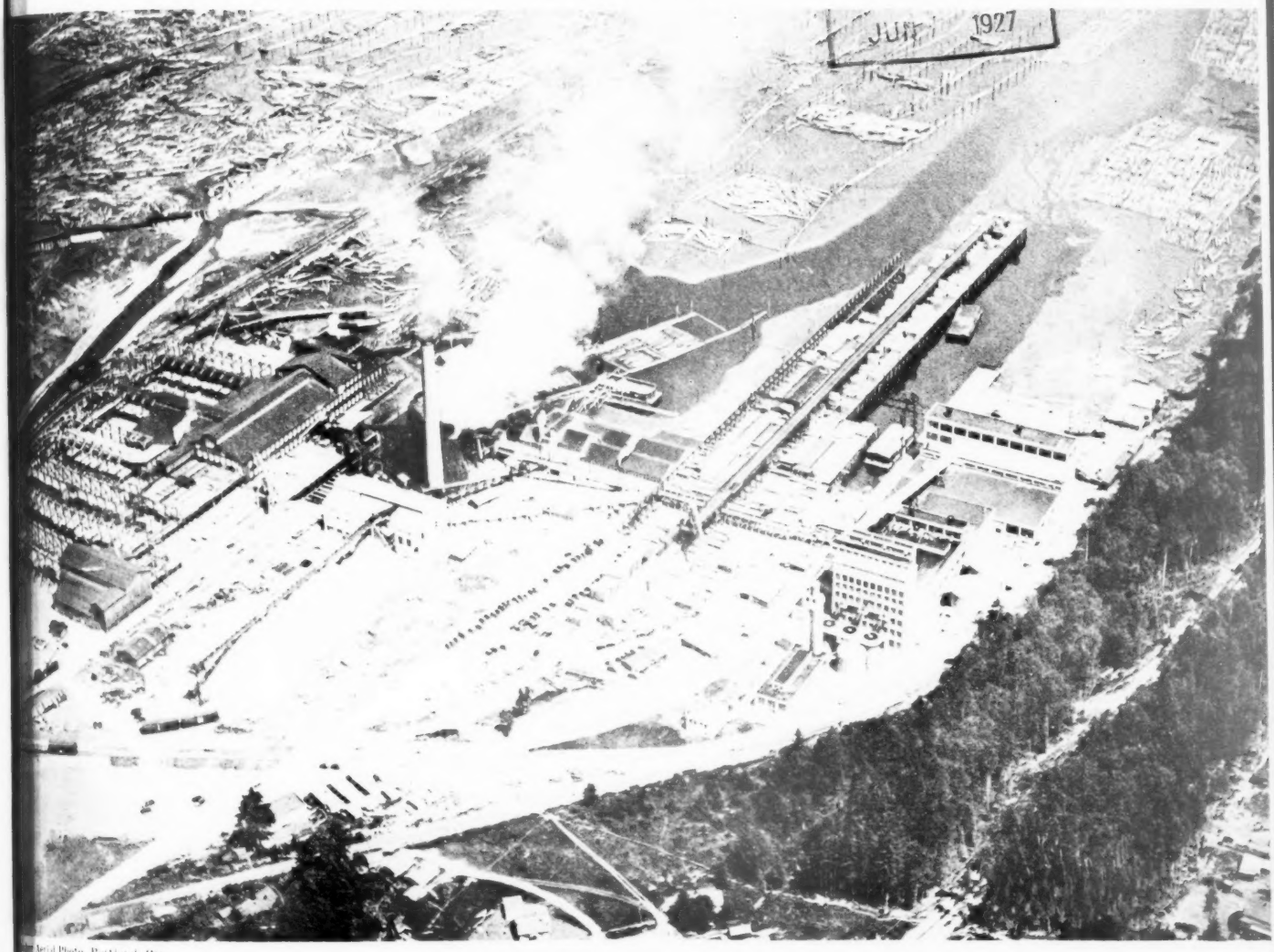
JUN 1927



Aerial Photo, Portland, Ore.

SHELTON, WASHINGTON

The new sulphite plant of the Rainier Pulp and Paper Company at the right draws on the McCleary fir mill at the left and the Reed hemlock mill in the center for steam and power and a portion of its chips, thus marking another step toward the more complete utilization of Western forest products.

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BUILT BY CHRIS KUPPLER & SONS

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TWO COMPLETE ORGANIZATIONS FOR PULP AND PAPER MILL CONSTRUCTION under the personal supervision of

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PORT ANGELES and SEATTLE

Financial References—First National Bank, Seattle-First National Bank, Port Angeles, Wash.

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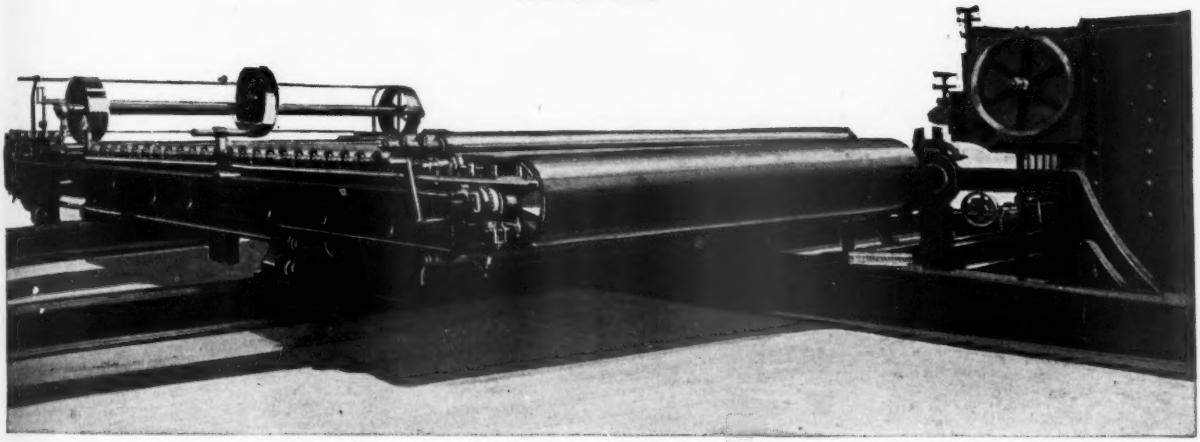
(Beloit Patent)



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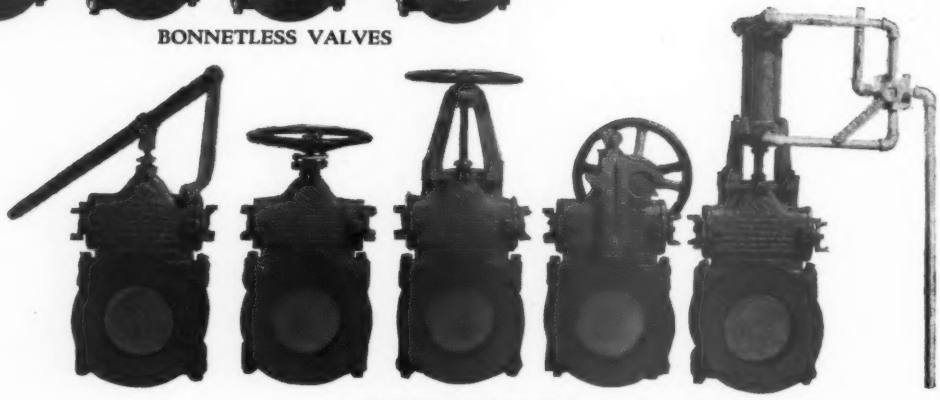
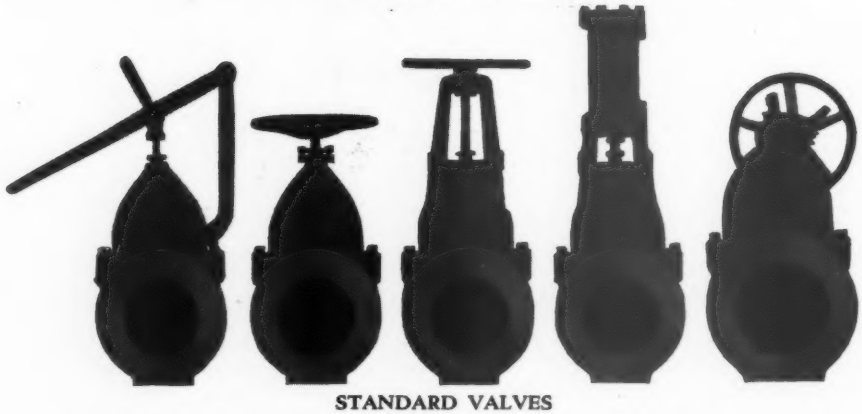


IMPROVED VALVES



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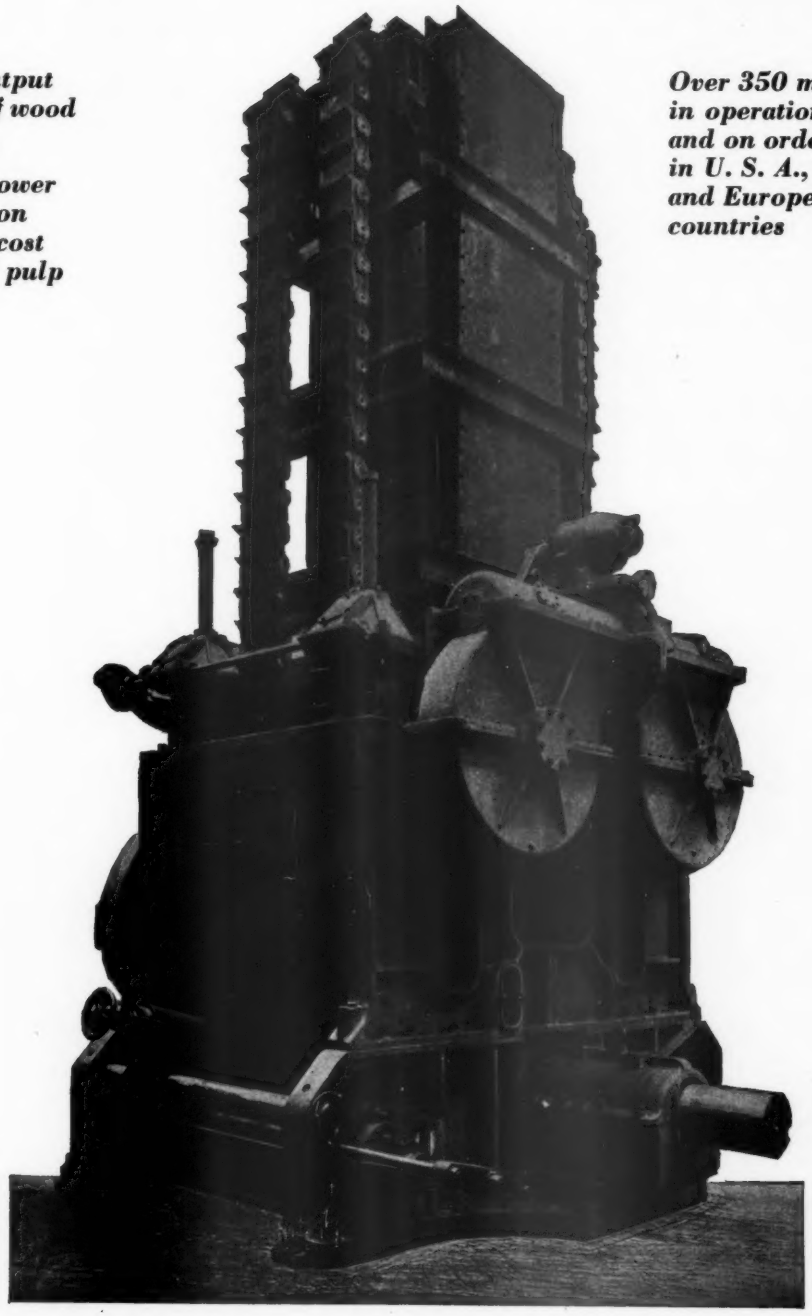

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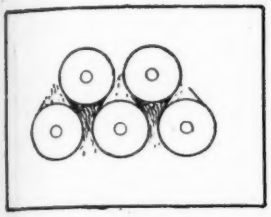
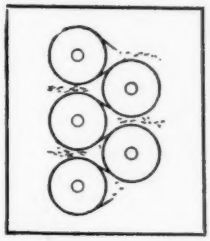


Moisture is trapped in this dryer, delaying drying, increasing costs, and lowering quality.



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THE above machine was put in operation a few weeks ago with highly satisfactory results. No trouble whatever was experienced in starting the machine.

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The Vapor removal system and the complete mill was designed by Consulting Engineer V. D. Simons of Chicago.

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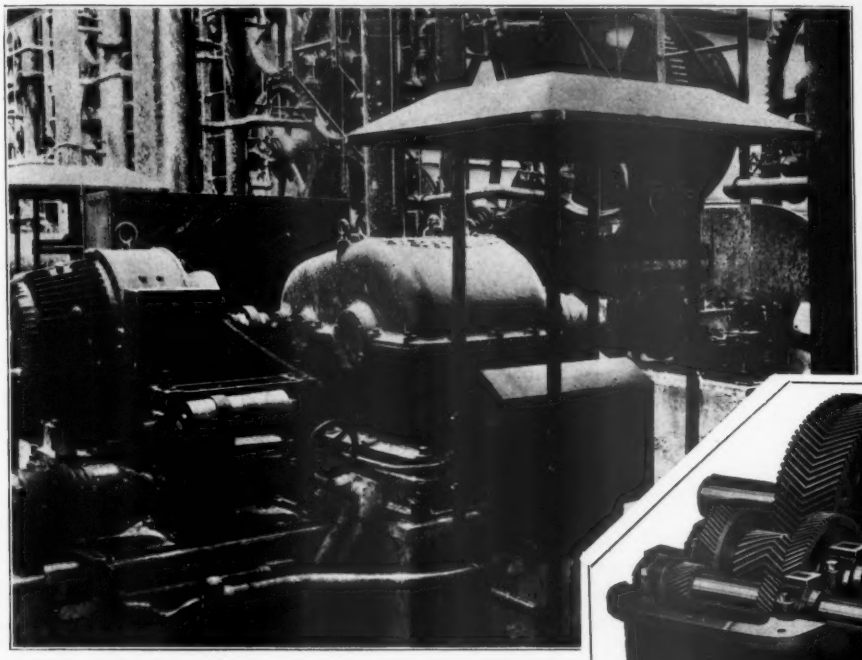
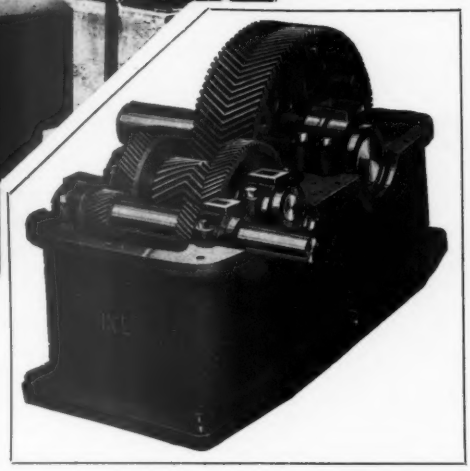


One of the eight IXL Speed Reducer Units installed at Rainier Pulp and Paper Mills, Shelton, Washington.



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Their selection was based upon a careful investigation of the merits and qualifications of the various units offered.

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Vol. 1 JUNE, 1927 Number 5

The Rainier Pulp and Paper Company mill at Shelton, Washington.

More Than Just a Fine New Mill

Characteristic of the progress that is being made in the pulp and paper industry on the Pacific Coast and indicative of fundamental advantages which this section possesses is the new $2,500,000 mill at Shelton where technical skill and plentiful but conservative capital have combined to build where raw materials are available in almost unlimited quantities.

The West Points to Shelton

In design, construction and equipment the Rainier Pulp and Paper Company's new plant embodies the most modern features known to the industry.

IT might be said that the new $2,500,000 mill of the Rainier Pulp and Paper Company at Shelton, Washington, is "tailor-made" from start to finish. From the inception of the plan through to the operation of the mill V. D. Simons had in charge the planning, construction and supervision of the plant which stands as the latest word in pulp and paper mill engineering in Pacific Coast development. It was decided to have a mill that embodied the best practices known in the industry, and such a mill was built, with everything planned and designed with that end in view.

Great flexibility in operation, excellent equipment, a modern building of reinforced concrete designed with superior engineering skill to fit the mill, and a high efficiency throughout, these are the high lights which characterize the new mill.

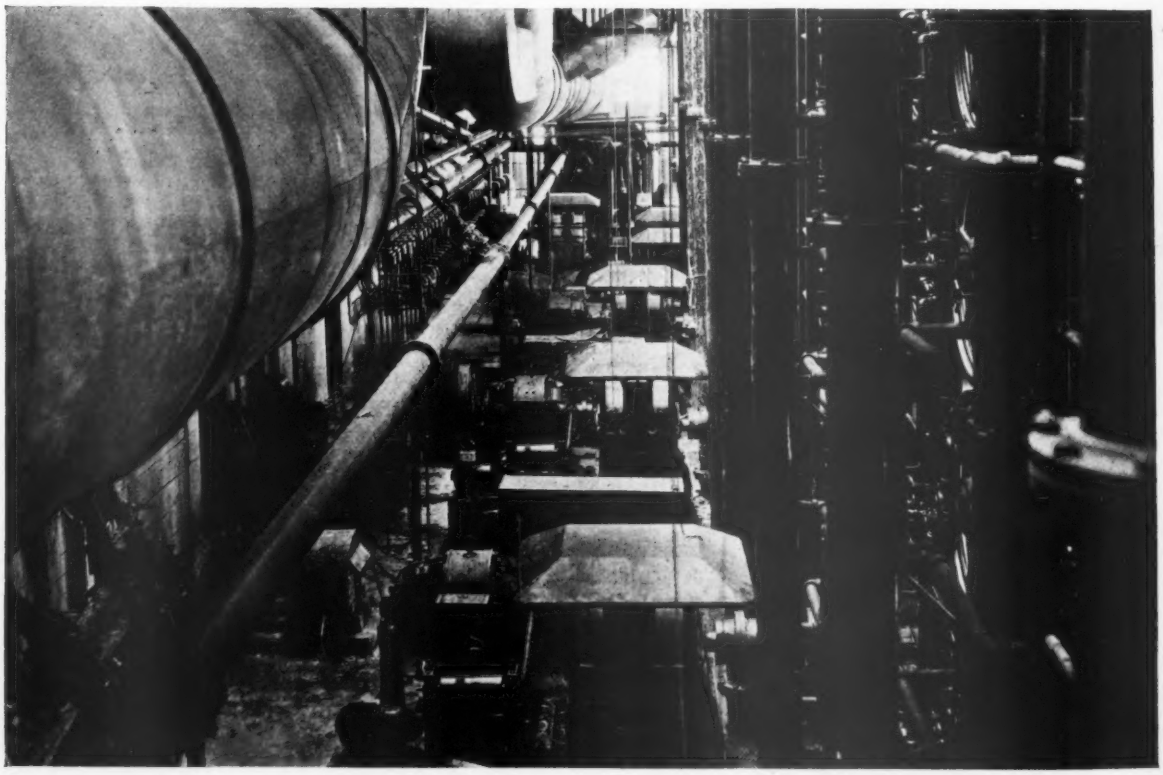
Just eleven months elapsed from the time the first sod was turned until the first pulp came off the machine. Production, when the new equipment is thoroughly broken in, will be 135 tons of bleached sulphite per day.

The site is on tide water in the city of Shelton, a town in Southwest Washington which has shown considerable activity in the lumber industry. The mill has its own docks at which scows can discharge or load, and rail connections are also available at the mill's doors.

The acid system is of G. D. Jenssen manufacture throughout. From the engineering standpoint it wants nothing, for, when the plant was ready to operate, the word was given to go, and the acid system was started as though it had been in operation for months. There was not a single hitch.

The sulphur is preheated before being fed into the Glens Falls Machine Works rotary burners and the charts on the Bristol Recording Pyrometers show that temperatures have little fluctuation and are highly efficient under this method. The cooling is done in an adjoining, but separate, room, water flowing over horizontal and vertical lead coils. The sulphur burning and the cooling rooms, with the Jenssen acid towers, form a building unit that is slightly apart from the main building.

Between the acid towers and the digester house are three acid recovery and one acid storage tanks. These tanks are all cross connected and there is also cross connection between the recovery tanks and the digesters



The machine is driven by seven Westinghouse motors with variable speed control, operating through Foote Brothers gear reduction units.

This digester house has plenty of light. The incline structure houses the conveyor which carries chips from the chip storage to the chip bins above the digesters. One of the three acid recovery tanks is shown in foreground.

thus providing a system which gives accurate acid control and maximum flexibility. In the storage and recovery tanks are incorporated engineering practices worked out by Mr. Simons, engineer in charge.

Going now to the further end of the plant one can follow in logical sequence the flow of the material. The mill has a wood room, but is buying the greater amount of its chips from the Reed mill which occupies the adjoining site and also from several other chipping plants in the Gray's Harbor and Puget Sound territory.

Chips can be brought in either by rail or by scow. Scows are unloaded by two P & H Gantry electric cranes of 8,000 pounds capacity each using steel clam shell buckets which travel from scow into the chip storage house. The cranes are used also for loading manufactured product and for unloading sulphur and limestone. Chips delivered by rail are dumped from the cars by gravity and then conveyed to storage.

On the inland side of the plant wood is delivered for the mill's own wood room.

Concrete Chip Storage

The chip storage house is of structural design on a par with the rest of the mill, reinforced concrete construction and well lighted with steel sash windows.

From storage the chips move by conveyor up an incline to the chip storage bin over the digester house at the other end of the plant, adjacent to the structures housing the acid system.

The digester house is worthy of particular mention, for, in contrast to so many digester houses in older mills, this one is of reinforced concrete and is glazed with steel sash to the very top, making a most excellent light and airy building.

There are three digesters, manufactured by the Puget Sound Machinery Depot each with a capacity of twenty-two tons per cook. The digesters, as well as the acid storage and recovery tanks are lined with tile by Stebbins Engineering Company. The heavy bronze valves used in the well-designed system involving the acid system and the digesters are all of Doran Brass Foundry manufacture.

When the digesters have been filled with chips from the chip storage house above acid is admitted to the digesters through Hayton centrifugal pumps driven by Allis-Chalmers motors. The cooked chips are discharged into three blow pits, one for each digester. A solid-walled vomit stack to carry off fumes rises alongside the digester house, but slightly separated from it, to the full height of the digester house.

There are six stock chests and one for white water, all lined with an acid proof lining. These adjoin one another and are housed on the first floor of the building opposite the machine room. A simple, yet thorough system of cross connection piping exists here in the stock chests, and also included in this system are two large cylindrical stock storage tanks of concrete just outside of the building. These cylindrical tanks have arched concrete roofs.

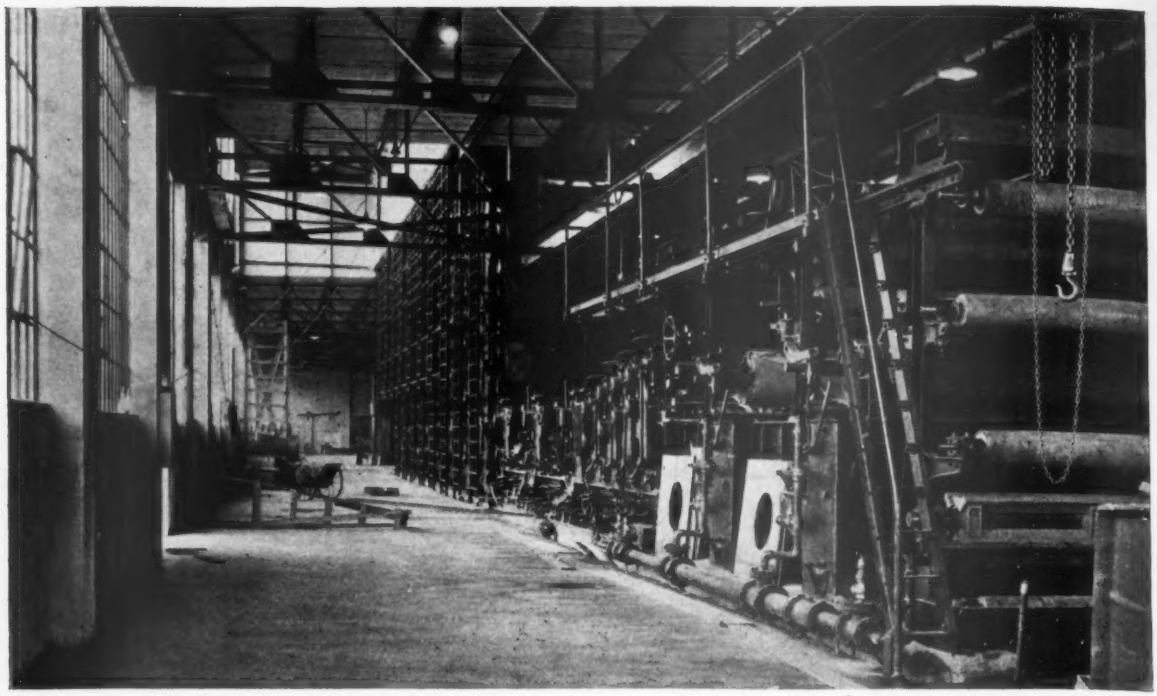
Systems Cross Connected

This cross-connection system carried out as a practice in the acid system, between acid system and digesters, and between stock chests makes the entire plant extremely flexible for operation purposes.

A double system of agitation is used in the stock chests, Allis-Chalmers motors being used in combination with Falk reduction gears for driving. The agitation is horizontal and propelling equipment is mounted on both sides of the concrete walls of the stock chests.

The stock chests are used for screened stock, thickened stock after screening, first bleach and second bleach. Each chest has a motor-driven Hayton centrifugal pump to transfer the contents. Some very nice pipe work makes for maximum flexibility in the stock pits as practically any combination can be made, pumping from one pit to another, to the washers, etc. Valves

This view, taken from a high position in the digester house, affords an unusual "slant" at the acid system. Jenssen acid towers are in the distance.



The machine room is Black-Clawson from wet pulp to finished sheet. The stack drying principle miminizes the vapor problem and makes possible a shorter room. Note the durable construction of the building and the abundant daylight. This view was taken a few days before operations began.

used on this pipe system are the Record Standard lever type made by the Record Foundry and Machine Company and vary in size from six inches upward.

There is also a large piping system leading to and from the chest used for white water storage, and this has been worked out to give the greatest control and flexibility.

Pulp from the stock chests is pumped to the two floors above where it is washed and prepared for the machine room. There are four large Oliver thickeners and two Oliver washers driven by Allis-Chalmers motors through Falk reduction gears. After passing through the knotters the pulp flows through a set of riffle boxes to take out sediment and foreign matter, is passed through Improved Paper Machinery Company centrifugal screens and over thirty 14-plate flat screens made by the Sandy Hill Iron and Brass Works. These flat screens are believed to be the largest in use. There are also twelve Impco deckers.

The Bleach System

The pulp, now thoroughly cleaned, passes through the battery of six Fletcher High Density bleach engines each driven with its own motor through a De Laval gear reduction unit. Blowers are installed with the bleaching machines to obtain a maximum of ventilation. Liquor from the bleach plant is metered.

The bleached pulp is now pumped to the machine room. In this room the equipment is Black-Clawson from wet end to cutter. No trouble whatever was experienced in starting the machine. The system of drying is known as the "stack" system, the cylinders being mounted vertically to give a freedom from moisture pockets formed in drying the sheet of pulp.

The Black-Clawson machine used at the Shelton mill is designed to dry from 100 to 130 tons of pulp per day. It has two vats, three presses, and eighty cylinders of forty-two-inch diameter, five high, or ten cylinders to a single driving unit. The machine is equipped with Sheahan Patent Paper Carriers.

Electrical sectionalized drive has been selected for the machine room. Each section of ten cylinders on the machine is driven by a Westinghouse D. C. Type 6 ventilated motor rated at 45 h.p. and operating on 250 volts.

A small synchronous motor for variable speed control is mounted on the same base with each drive motor. Each drive motor has a board alongside with Westinghouse D. C. automatic controller type, field rheostat, ammeter and voltmeter. On the opposite side of the machine, mounted on the wall, are button controls.

Foote Reduction Gears

The motor speed is reduced to proper driving speed through IXL Herringbone reducers manufactured by the Foote Brothers Gear and Machine Company. These have a radio of 27.80 to 1. The wet end is driven by three similar combination units of Westinghouse motors and gear units.

On the last drive unit of the drying end an Electrical Tachometer Corporation tachometer is installed, directly coupled to the gear unit and wired to a control board at the end of the machine.

The cutter is also Black - Clawson. The pulp is cut into sheets thirty-six by thirty-two inches and these are made up, under two Southwark hydraulic presses, into bundles weighing about 400 pounds each.

A Dilts continuous beater is installed near the wet end of the machine to take care of the broke. This machine is of the keyed type bandless roll with a diameter of fifty inches. It is driven by a fifty horse-

power Allis-Chalmers motor using a Texrope drive. A stuff pump is installed in connection with the beater.

Vapor removal in the machine room is taking care of by a well-worked out system of warm air ventilation. At each end of the room there is a Clarage blower which draws air over a large steam radiating surface and distributes the warm air, discharging it at many points near the roof.

Each blower is driven by a thirty horsepower Allis-Chalmers motor using a Texrope drive. An Armstrong steam trap is used in connection with the steam pipes in each blower.

During the construction period materials were largely handled on the job by Elwell Parker Storage battery lift platform trucks. These trucks did away with a great amount of labor in speedy and efficient handling of materials, and they remain now in use about the plant for several purposes, not least of which is the handling of finished pulp in bundles. A crane truck of this same manufacture makes the piling of these 400-pound bundles an easy matter.

With respect to the general features of the mill entire, there are several things of interest. The solid construction of the plant buildings, as well as their design for the particular needs of this mill, have been mentioned before. Notable also is the great amount of steel sash used throughout the plant to admit a maximum amount of light.

The flexible feature is also exemplified in the warehouse which is situated between the machine room and the chip house. Although the mill has a capacity of 135 tons a day, this warehouse can accommodate approximately 3,000 tons of finished pulp in bundles.

Also indicative of the completeness of the mill is the machine shop and tool room which occupies a portion of this warehouse.

Fire Precautions

Although it would seem that a mill of the design of that at Shelton would need little fire protection it is significant to note the installation of Lyon Carr metal fire doors, and, in addition, a Grinnell sprinkler system in the machine room, chip house, chip storage bins, sulphur storage room, and wood room.

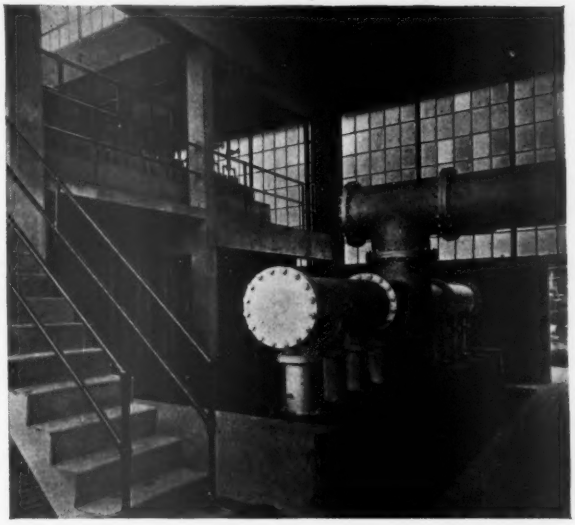
Steam and power for the plant are obtained from the sawmills which occupy adjoining sites. Hog fuel from the sawmills provide the fuel. Additional capacity for this steam and power unit was installed to take care of the needs of the pulp mill and a large steam line and several lines of conduit for the power were run from the power house to the mill.

There is an abundance of good water and this is passed through an extensive filtering system in the plant, a feature of this unit being that it is reversible and therefore easily cleaned.

That the chemists and engineers will be on the job all the time, constantly seeking to improve the quality of the Rainier Pulp and Paper Company product is evidenced by the complete laboratory on the third floor of the mill. Here operations will be closely checked.

Some work still remains to be done at the Shelton plant although operation began in May. The temporary buildings used in construction have mostly been removed and the grounds have been leveled and seeded to lawn.

The new Shelton mill is really a monument to the engineering skill of V. D. Simons, a leader in pulp and paper mill engineering. Mr. Simons has been in the pulp and paper field all his life, designing, constructing and operating. From his main offices in Chicago he directs at one time many operations all over the country.



When the time came to start the word was given to go and the acid system started like a veteran.

In addition to the work at Shelton he designed and supervised the construction of the new newsprint unit of the Washington Pulp and Paper Corporation at Port Angeles which began operation in the spring of the present year. The work at Port Angeles was carried on practically simultaneously with the work for the Rainier Pulp and Paper Company.

In his long experience as a pulp and paper mill engineer Mr. Simons has gathered about himself a staff of highly capable engineers. Mr. D. R. Hettelsater, who has been associated with Mr. Simons for about seven years, is resident engineer at the Shelton plant, but he was also active in the design of the plant as well as the design of the Port Angeles work.

Mr. Hettelsater has been assisted at Shelton by Mr. L. H. Rubicam and Ralph E. Griffith. The latter is a somewhat recent acquisition to the Simons' organization, but he has shown exceptional ability in handling all of the equipment installation at Shelton.

Kuppler Built It

The Shelton plant construction work was done by Chris Kuppler & Sons of Port Angeles, the same company which built the original and expansion units of the Washington Pulp and Paper Corporation. George Kuppler was in charge at Shelton.

Leo S. Burdon is in charge of the office at Shelton. He has a long engineering experience in the pulp and paper industry on the Pacific Coast, having been with the Crown-Willamette interests for many years.

David B. Davies is in charge of operations. He came from the Middle West not long ago where he had long been identified with such prominent pulp and paper mills as the Hoberg Paper and Fibre Company, Green Bay, Wisconsin, and the Northern Paper Mills.

Other members of the staff of the Rainier Pulp and Paper Company are William Breitenbach, chief chemist in charge of chemical control; Bert Libby, sulphite superintendent; and A. A. Owens, the night superintendent.

The officers of the Rainier Pulp and Paper Company are E. M. Mills, president; J. C. Higgins, vice-president; J. D. Zellerbach, vice-president; S. Sonnenburg, secretary-treasurer; and A. I. Ellis, assistant secretary-treasurer.

Pulp and Paper Imports and Exports of Sweden and America*

By CONSUL TORSTEN LUNDGREN
Managing Director, Swedish Cellulose Association

DURING the first decade of the twentieth century the export of wood pulp from Sweden to the United States was almost negligible. In 1905, only 8,212 tons were shipped, and this quantity slowly crept upward to 29,492 tons in 1909. A noticeable improvement, however, began in 1910 when Sweden sold 41,265 tons on the American market, and it continued so that in 1915, 106,705 tons, and in 1920, 105,434 tons, were increased even more rapidly, as shown in the following table.

Swedish Exports of Wood Pulp to the United States

Year	Mechanical Tons*	Chemical Tons*	Total Tons*
1921	7,128	190,860	197,990
1922	3,075	379,073	382,148
1923	5,843	295,430	301,273
1924	1,722	451,082	452,804
1925	4,142	407,740	411,882
1926	1,271	491,052	492,323

*Of 2,240 lbs., dry weight.

From this table it is apparent that while the export of mechanical pulp is of little importance, that of chemical pulp reaches very heavy figures and is increasing in volume steadily from year to year.

With the exception of lumber which ranks first among Sweden's export article, the export from Sweden of wood pulp, including chemical and mechanical pulp, outweighs in value that of any other article. It amounted to about 250,000,000 kronor ($66,000,000) in 1925. This was about 18.3 per cent of the value of Sweden's total exports that year, which reached a sum of 1,360 million kronor ($363,000,000).

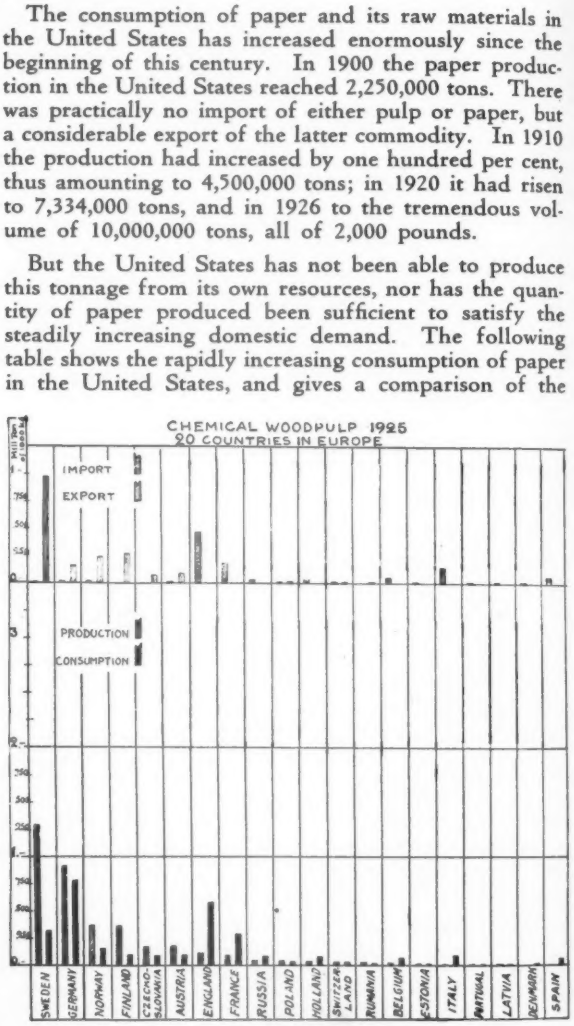
In the commercial interchange between Sweden and the United States, wood pulp ranks first, with a value of about twenty-three million dollars, as shown by the following table of Sweden's trade with the United States in 1925:

	Exports from U. S. to Sweden	Sweden to U. S
Wood pulp		$22,898,187
Rags		100,392
Paper	$ 113,475	4,847,652
Total paper and raw materials	$ 113,475	$27,846,231
Total exports	$58,591,548	$38,069,394
Sweden's excess imports		20,522,154
	$58,591,548	$58,591,548

Not less than sixty per cent of the total export from Sweden to the United States in 1925 consisted of wood pulp, chiefly chemical, and if paper is added to this item, a ratio of seventy-three per cent is reached. Had it not been for its exports of wood pulp and paper, Sweden would have had a deficit of 109 million kronor, or over thirty million dollars, in its trade balance with the United States, instead of the one and one-half million dollars shown in the actual trade balance for that year.

The consumption of paper and its raw materials in the United States has increased enormously since the beginning of this century. In 1900 the paper production in the United States reached 2,250,000 tons. There was practically no import of either pulp or paper, but a considerable export of the latter commodity. In 1910 the production had increased by one hundred per cent, thus amounting to 4,500,000 tons; in 1920 it had risen to 7,334,000 tons, and in 1926 to the tremendous volume of 10,000,000 tons, all of 2,000 pounds.

But the United States has not been able to produce this tonnage from its own resources, nor has the quantity of paper produced been sufficient to satisfy the steadily increasing domestic demand. The following table shows the rapidly increasing consumption of paper in the United States, and gives a comparison of the



IMPORT AND EXPORT

As shown in the upper half of the chart Sweden is the leading exporter of chemical wood pulp, shipping yearly about 1,000,000 tons. Next in order comes Canada, with a little more than 500,000 tons, followed by Norway and Finland, with about 250,000 tons each. In 1925, the four countries together supplied 2,000,000 of the 2,400,000 tons available on the world market. Of this quantity the United States imported 1,200,000 tons, or 50 per cent.

PRODUCTION AND CONSUMPTION

The lower half of the chart shows the total world production of chemical pulp in 1925 was about 7,000,000 tons, of which 3,750,000 tons were produced in Europe and 3,250,000 tons elsewhere. The consumption in European countries was about 3,000,000 tons and that outside Europe, 4,000,000 tons, whereof 3,250,000 tons in the United States. Canada consumed 500,000 tons, including 300,000 tons used in newsprint exported to the United States. The actual total consumption of chemical pulp in the United States thus amounts to 3,550,000 tons, or 51 per cent of the world's production.

*Reprinted from the 20th Anniversary Year Book of The Swedish Chamber of Commerce of the U. S. A.

supply from domestic sources with that from abroad:

Consumption and Excess Import of Paper to the U. S.

United States	1910 Tons*	1920 Tons*	1926 Tons*
Production	4,500,000	7,334,000	10,000,000
Import in excess of export	23,000	435,000	1,750,000
Consumption	4,523,000	7,769,000	11,750,000
Per capita consumption	98 lbs.	147 lbs.	200 lbs.

*Of 2,000 lbs.

The per capita consumption of paper increased on an average of 1.5 per cent per year during the period 1910 to 1920, and of six per cent per year during the last period of six years. The absolute increase in quantity was 7.2 per cent and 8.5 per cent, respectively, for the periods in question.

The principal raw materials for the paper production in the United States are pulp wood and wood pulp, both obtained partly from domestic forests and pulp mills, partly from abroad. Canada supplies annually a substantial part of the pulp wood consumed in the United States, and part of the wood pulp, while the balance of wood pulp imports comes from Sweden, Norway, Finland, Germany, and a few other countries.

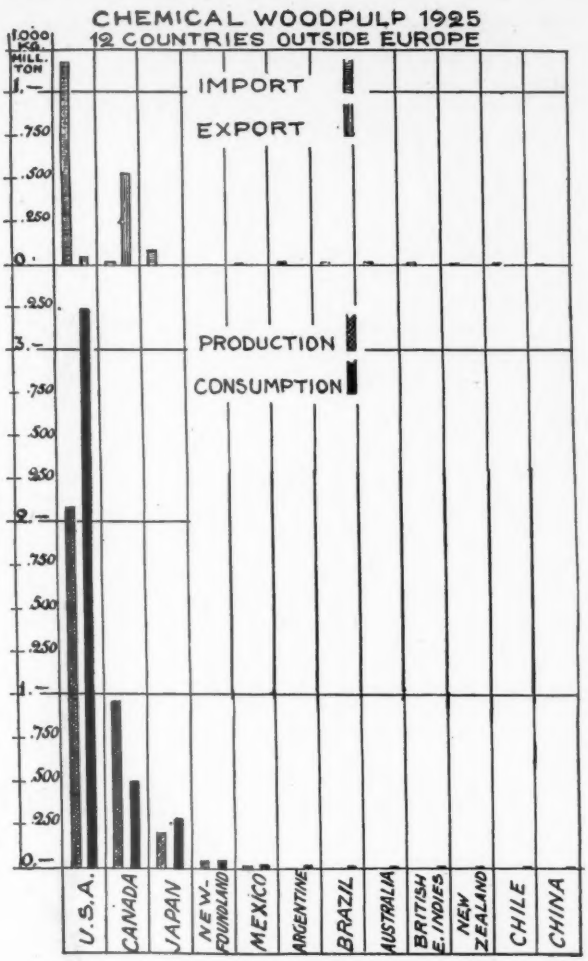
U. S. Imports of Raw Materials for Paper Manufacture

Articles	1910	1920	1926
Pulp wood from Canada, cords	931,731	1,241,000	1,375,000
Converted to pulp, tons	575,000	765,000	850,000
Imported wood pulp, tons	506,800	906,300	1,700,000
Total imported raw materials in U. S. paper, tons	1,081,800	1,671,300	2,550,000
Idem in per cent of U. S. paper production	24	23	25
Import of paper in excess of export, tons	23,000	435,800	1,750,000
Total paper and raw materials of foreign origin, tons	1,104,800	2,107,100	4,300,000
Idem in per cent of U. S. consumption	24	27	37

Tons of 2,000 lbs.

The constant growth of the paper consumption in the United States and the apparent inability of its industry to provide for more than about two-thirds of its actual need of paper, are matters of concern not only to the paper manufacturers but also to the government authorities.

The American paper industry is suffering chiefly from lack of wood suitable for making newsprint. Of this commodity the United States consumed three million tons in 1925 and three and one-half million tons in 1926.



PRODUCTION AND CONSUMPTION

The production of chemical pulp in the United States, although the largest in the world, covers less than two-thirds of that country's consumption; more than 1,000,000 tons per year are imported, chiefly from Canada, Sweden, Norway, Finland, and Germany.

Less than one-half of this quantity, or 1,687,000 tons, was manufactured in the United States, the balance being imported, chiefly from Canada. Moreover, only about one-half of the newsprint made in the country comes from domestic wood, the rest being made from imported wood pulp and pulp wood. Consequently, only about twenty-five to thirty per cent of all the newsprint used in the United States has its origin from wood grown in American forests.

New $2,500,000 Kraft Mill For Northwest

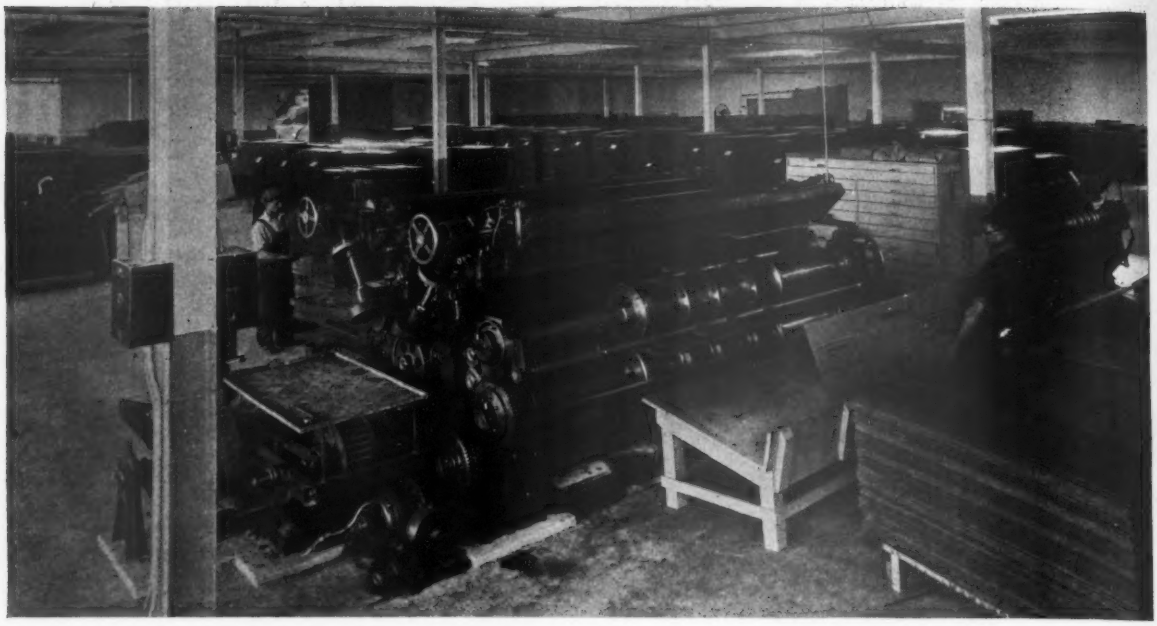
Zellerbach Corporation will build a $2,500,000 kraft mill somewhere in the Puget Sound or Olympic peninsula territory, according to recent announcement by Vice-President E. M. Mills.

With the announcement that the mill will be built appear claims made by many different communities that the mill will probably be located there.

As late as June 4 no decision had been made on the site. Mr. K. O. Fosse, Seattle representative of the Zellerbach interests, said on that date. "We are in no hurry to build this mill. There are three paramount requirements, water, steam and power, and raw material. There are many excellent locations for a mill of this type here in the Northwest, but in addition to site we must have all these three things in abundance. Our plans will not be made definitely until we have found the best possible location."

Two locations which have been spoken of considerably, but not officially, are Port Townsend on the west coast of Puget Sound, and Port Angeles on the north coast of the Olympic peninsula. Committees from Port Townsend waited upon Mr. Mills when he was in Seattle and discussed the advantages their site had to offer, but no decision was reached.

"There is nothing definite as yet," Mr. Mills said. "Everything is pending negotiations, although we have in mind pretty well the type of mill that we intend to build."



The piles of stock near at hand seem to indicate that there is plenty of work for this two-color Langston printing press at National Paper Products Co.

National Paper Products Company

EXPERTS have pronounced it one of the most modern converting plants to be found on the Pacific Coast, if not in the United States—this new unit of the National Paper Products Company which commenced operations on March 21. It is located on a twenty-five acre site in South Gate, an industrial community near Los Angeles, east of Otis avenue and south of Santa Ana street. The new plant supersedes the former location of the company at Pico and San Pedro streets in Los Angeles.

Embodied in the buildings and equipment of this large new plant are the results of twenty-five years of experience in this line of work. The completed structure and equipment represents an outlay of approximately $800,000. The building was designed by architects Ellis & Russell with the able assistance of V. D. Simons, consulting engineer. The plant is a model of efficiency and notable for the elimination of "lost motion" despite the fact that it contains about 3½ acres of floor space.

At the south, east and north sides of the building are spur railroad tracks to facilitate the handling of incoming raw materials and outgoing finished products. The switch on the north side is for finished products and has a capacity of eight cars, the switch on the east side will accommodate ten cars and the tracks on the south side will have a capacity of ten cars also.

The first unit of this plant, which is now completed, is devoted to the manufacture of folding boxes in large variety and corrugated fiber shipping cartons. Within a few months the company is planning to construct another unit, to the south of the present structure, for the manufacture of box boards. Another unit is also contemplated on the east side of the factory for the making of solid fibre cases. The project, it is estimated, will eventually call for an expenditure of about $2,500,000.

Thoroughly sharing in modern beliefs as to the benefits to be derived from a pleasant working environment the National Paper Products Company has spared no expense in this direction. The building sets well back from the highway with a large lawn in front which is being cultivated by landscape gardeners and beautified with shrubbery and palm trees. A fence is to be erected which will be covered with vines and flowering plants. To the rear of the building is an 180,000-gallon water storage reservoir which will also serve the purpose of an immense swimming pool for use of the employees.

Perfect light and perfect ventilation are two of the notable features of the new building. The main portion of the factory is of concrete and brick construction and floors are of concrete throughout.

Raw material upon arrival is unloaded directly into the stock room. That portion not intended for immediate use is removed to the roll storage pit where an electric crane, operated by one man, handles the heavy rolls as easily as marbles. This 5-ton Shepard hoist is equipped with an especial grapple, designed by an engineer of the Union Iron Works of Los Angeles. It has been patented and is soon to be placed on the market as the "National" grapple. It will easily grapple a roll of paper of any size, without danger of slipping or tearing, and is under the complete control of

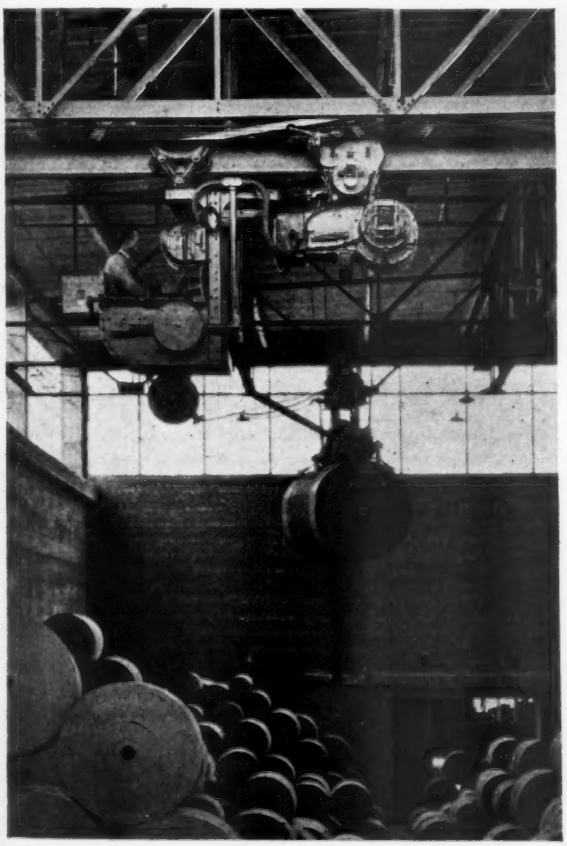
the operator being plainly visible through the slats of his cage—doing away with danger of accidents. The various sizes in this roll storage room are stacked together much more neatly than would be possible by hand. About 1,500 tons of roll stock are kept in reserve constantly.

Next to the stock receiving room is the printing department equipped with four large Miehle two-color presses, two pony Miehles, six Chandler & Price platen presses and one Universal press. An Oswego power cutter is used in the stock room. The composing room is operated in connection with the press room.

Adjoining the printing department is the room devoted to the die cutting of boxes, gluing, paraffining, etc. Three Babcock cylinder presses are used for die cutting and six John Thompson platen presses. Other equipment in this room includes an Improved Brightwood Box Machine, made by the United States Box Machine Company, of Boston, Massachusetts, hot paraffine machines made by the International Paper Box Machine Company, of Nashau, N. H., a Vailoo No. 8 cellular automatic scoring machine made by the Acme Machine Company, of Minneapolis, Minnesota, Monitor box stitchers, etc.

In the flat stock storage room an interesting experiment is being made which, it now seems probable, will meet with complete success. It had been expected that a humidifier system would have to be installed in this room. At the suggestion of the engineer, however, a ceiling of Celotex was constructed with a 12-inch air space between it and the roof and, from all appearances, this simple expedient will solve the problem.

R. C. McCRYSTAL



One man sitting in the cab of this Shepard crane can handle the heavy rolls alone with the electrically operated automatic paper grab. The crane is a lattice girder transfer type, 71 ft. 3 in. span, 4-ton capacity, and has a 28-foot lift. Being of the transfer type, future extensions to the storage room adjacent to present storage is permitted by installing spur tracks to either side of the present storage, enabling the hoist with the load to leave the transfer bridge and run out over these spurs.

In the pumping plant is a 100 h. p. Babcock & Wilcox oil burning boiler. The water storage gravity tank is of 100,000-gallon capacity. Just outside the boiler room are the underground silicate and oil tanks. Next to the boiler room is the machine room.

In the corrugating room virtually all of the equipment is Samuel M. Langston Company manufacture. This includes a complete sixty-three-inch Langston corrugating and double facing machine with six-section double facer, and capable of operating at speeds up to 200 lineal feet of board per minute, a sixty-three-inch type "M" single faced chopper, a two-color slotter-printer, a 60 inches by 122 inches, and in addition a 42 by 94-inch Langston slotter-printer, equipped for one color printing. Other machines of Langston manufacture at this plant include a 122-inch slitter and scorer, and a partition gang saw with band saw attachment, designed especially for the production of partitions on a quantity basis.

A feature of interest is a sample-making machine, manufactured especially for this company, where sample boxes may be quickly made up for the benefit of prospective customers. This machine is complete and practical and is something of an innovation in this line.

The plant is equipped with a hospital and dispensary.

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Oscar, George, Herman and Walter

Back in 1889 Chris Kuppler went into the contracting business and began the building of a record that is today one to be envied. There were four sons, Oscar, George, Herman and Walter, and, as these boys grew up, they grew right into the contracting business with the father and in 1911 the contractor's letterheads were changed to read "Chris Kuppler & Sons".

GEORGE KUPPLER

Today the firm has two complete organizations and the buildings it has erected dot the Olympic peninsula and other parts of the Pacific Northwest. Chris Kuppler died in 1920 shortly after completing the construction of the first unit of the Washington Pulp and Paper Corporation at Port Angeles, but the sons remain to carry on. The just completed splendid plant at Shelton, Washington, of the Rainier Pulp and Paper Company, stands as the latest monument to the building ability of the Kupplers.

The Shelton plant demanded speed. The first concrete for the plant was poured on July 21, 1926, and on May 10, 1927, less than ten months later, the first pulp was put through the mill. For much of the time a double shift was pushing the construction at Shelton.

More than 14,000 cubic yards of concrete went into the Shelton plant. This meant that an average of 1400 cubic yards of concrete had to be poured every month. Steel used in the building amounted to 1100 tons. Excavation for the building totaled 14,000 cubic yards.

The mill is located at tidewater and it was necessary to drive 8,000 piles for foundation purposes.

The building is excellently lighted as is evidenced by the 40,000 square feet of steel sash and 26,000 panes of glass which were used.

Lumber for the concrete form work amounted to 1,600,000 feet.

The digesters are the largest in America and the digester building and vomit stacks are 120 feet high. The filter unit is one of the largest on the coast.

George W. Kuppler was in charge of the Shelton plant construction. The firm has two complete big building organizations, however, and at the same time that George was supervising the Shelton work, Herman B. Kuppler was in charge of the expansion work at Port Angeles for the Washington Pulp and Paper Corporation. Oscar A. Kuppler is a third member of the organization. He was in charge of construction at Camp Talbot near Port Ludlow, Washington, an immense logging project that required 108 buildings. Walter R. Kuppler is the fourth member of the firm. He makes his home in Seattle and handles the accounting and purchasing.

As evidence of the faith in the Kuppler's reliability of performance it is significent to note that they have made and executed contracts of such proportions as the Shelton mill without being required to post a bond.

Clearing Site At Hoquiam

A crew of men under James H. Coyne began the work of clearing the site of the new Gray's Harbor Pulp Company at Hoquiam, Washington, early in May. The crew is piling and burning the accumulation of slab wood that is several feet deep in places on the site of the old National lumber mill which burned down some time ago. Pile driving will begin as soon as the ground is ready.

V. D. Simons, consulting engineer of the Zellerbach interests, who supervised the construction of the new mill of the Rainier Pulp and Paper Company, at Shelton, Washington, will also have under his charge the construction of the Hoquiam plant. Mr. Simons was in Hoquiam on May 16, looking over the site and conferring with the engineers and others in charge of the preliminary work.

Actual construction of the mill start as soon as plans are entirely complete.

The Hoquiam mill will be similar in design and capacity to that of the new 130-ton sulphite mill at Shelton, Washington. The investment will be between $2,500,000 and $3,000,000.

A. J. Bennett, resident engineer of the Washington Pulp and Paper Corporation at Port Angeles, who, it is said, may direct the work at Hoquiam as Mr. Simons' personal representative, was in the Seattle office of the company recently going over plans.

Dick Owens of Port Angeles, who will have charge of the pile driving, is already in Hoquiam.

Mills Sounds Note of Caution

"There have been as many failures as there have been successes in the pulp and paper industry on the Pacific Coast," declared Vice-President E. M. Mills of the Zellerbach Corporation upon the occasion of a recent visit to Seattle and other cities in the Northwest.

"There has been a great deal of talk about the development here, and while there is little question that the section will play an important part in the industry, the market has its limits and there is the greatest need for conservative and thorough investigation into the field before entering it."

Mr. Mills points out that the investments are extremely large in the industry, and, aside from this, a solid backing of engineering experience is necessary. The plans of the Zellerbach Corporation have not been given great publicity for the reason that over-enthusiastic optimists and unreliable promoters seize upon the facts and make unwarranted statements that often lead to failure.

"The manufacture of pulp and paper is a highly specialized branch of industry and not one that can be entered on a shoe string," Mr. Mills declared.

Installing Chipping Plant

The Hammond Lumber Company at Mill City, Oregon, is installing a chipping plant and expects to be marketing chips about August 1 of the present year. Fred Olin is in charge.

There has been some talk that the Hammond Lumber Company would install a pulp mill at Garibaldi in the Tillamook district. This has been discredited, however, in a statement made by G. B. McLeod, district manager, who has offices in Portland.

Mr. McLeod states that the company is not considering a pulp mill at Garibaldi, but points out that the district is rich in resources suitable for such an industry.

A New Drive Was Needed*

Exacting Transmission Requirements of the Pulp and Paper Industry Set the Allis-Chalmers Engineers to Thinking and Thus Was Born the Texrope Drive.

PULP and paper mills use power in large quantities and at widely separated locations. Electrical transmission of this power, the most economical method, requires that a motor be connected to each machine. Few units in a paper mill can be direct connected economically, for the reason that speeds are generally slow, and low speed motors are much more expensive and inefficient than high speed.

The problem is, then, to connect a relatively high speed motor to each machine, whether it be a high speed or low speed machine, so as to obtain the best operating results. Generally this means connecting a high speed motor to a low speed shaft. This ought to be done without much loss of power. A transmission device which consumes a relatively large amount of power itself defeats the very purpose for which it was intended.

A Texrope drive used on a Dilts new type beater at the new Rainier Pulp and Paper Company sulphite mill

Pulp and paper making is largely a wet process, and most of the machines involved in it are subject to considerable dampness, either on account of the work being done by it or because the common method of cleaning up with a hose. Water may be turned on the drive accidentally or otherwise.

The Problem of Space

The problem of space occupied by motor and drive is important, both in old and new mills. The ability to locate the motor in the most favorable place may save extra construction expense, or allow more machines to be located in the same area, or permit more efficient grouping from the standpoint of the work to be done around them.

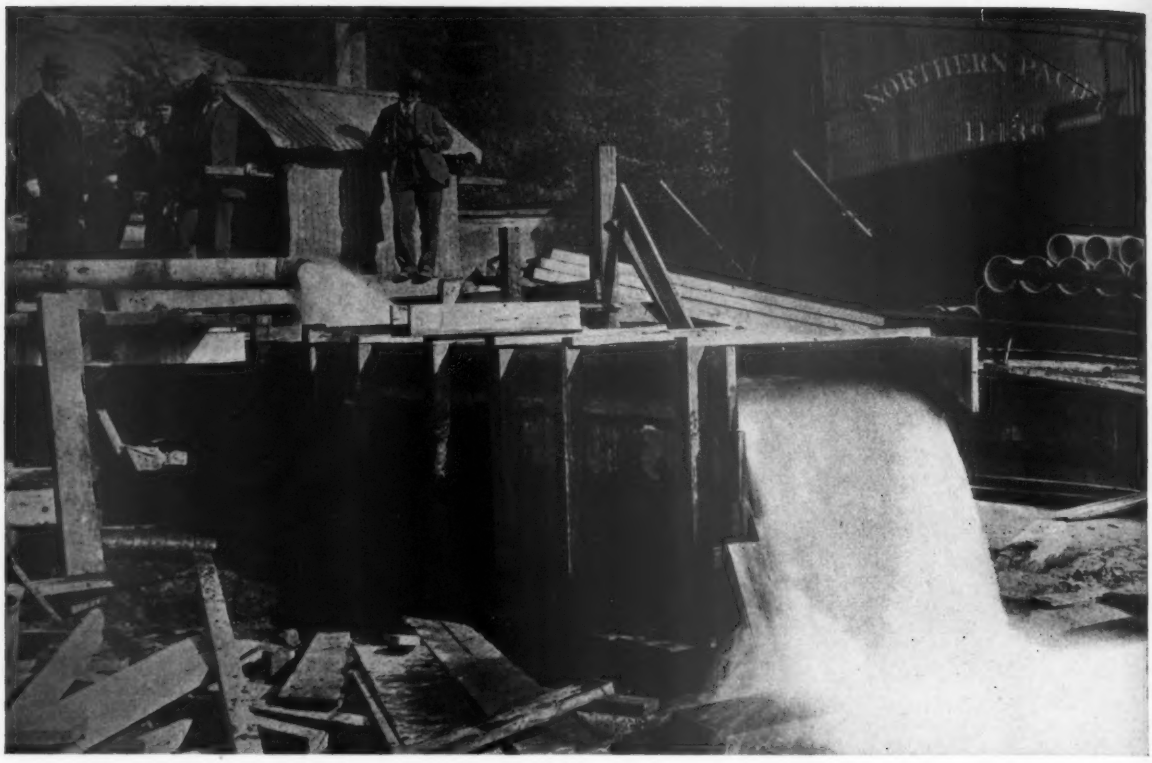
However, no one of these features is as important as sustained operation. A pulp or paper mill is in effect a single machine with many parts, and the failure of any of the parts many cause a shut down of the entire mill. The transmission of power from motor to machine must be uninterrupted, and a device which will not fail all at once, but which will operate for hours, days or weeks, if necessary, after failure has begun, will give the operating force sufficient warning of failure and allow them a arrange for repairs while the machine is not in service.

Some of the machines in a paper mill, notably beaters and washers, are subject to shock loads, and the use of a flexible driving medium is neccsary to prevent damage to the machine or to the motor. Other machines, used in the finishing process, require particularly smooth, even, pulsationless operation in order to produce a smooth highly finished sheet.

It was to overcome these several objections found in transmission systems that the Texrope drive was devised and tried out. The Texrope drive consists of two grooved sheaves, and a number of specially constructed "V" belts. Each belt is a single unit in itself, so that failure of one does not affect the others, except

(Turn to page 46)

*By Walter Geist, Chief Engineer, Transmission Division, Allis-Chalmers Manufacturing Company.



Fifteen hundred gallons a minute, that's what the new well at the Tumwater Paper Mills, at Tumwater, Washington, produced when given its first try. The drillers say it will go 2,000 gallons or better when fully developed. The well is drilled on the company's own property. It has an 18-inch casing inside of a 24-inch casing and is 105 feet deep. Shown in the picture, beginning at the left, are Ralph H. Shepherd, secretary of the Tumwater Paper Mills, the two drilling foremen, A. Woods and Mr. Anderson, T. Osmund, president of the Tumwater mills, and G. F. Kuentzel, engineer for the N. C. Jannsen Drilling Company which put in the well.

Our Underground Water Resources*

N. C. JANNSEN

THE many surface streams flowing into the sea on the Pacific slope are in themselves the best testimony that there is an untold volume of water to be found beneath the surface. Water prefers to flow straight down, yet few people perhaps give little thought to a fundamental thing, that the water on the surface is running there because the ground is already saturated.

These underground rivers and sheet water lakes are great in magnitude. Government statistics show that eighty per cent of all water in the North American continent, including the Great Lakes, lies underground. Some districts, of course, have far more underground water than others. Long experience in well drilling has shown that original formations are generally poor sources of subterranean water, but the sedimentary formations, of which there are many, have plenty of water.

Lake Washington, the shore of which constitutes a considerable portion of Seattle's city limits, is a good example of subterranean water. There are several streams of considerable size flowing into the lake, but only a very little surface water leaves the lake. I quite firmly believe that a goodly portion of this water enters the sea in the vicinity of the Tacoma tide flats. When the lake was lowered several years ago a parallel lowering in some wells at the Fleischmann Company's plant at Sumner, Washington, was noted. Further, wells drilled to a depth of 800 to 1,000 feet in different parts of Seattle between Lake Washington and Puget Sound have failed to produce water.

In general the localities in the Pacific Northwest which have been named as probable future pulp and paper centers can tap great volumes of subterranean

(Turn to page 44)

*By N. C. Jannsen, N. C. Jannsen Drilling Company.

Cameron to Study Alaska Proect

Immediate study of the power and pulp timber resources in the vicinity of Juneau, Alaska, is contemplated by George T. Cameron, publisher of the San Francisco Chronicle. Mr. Cameron, and interests represented by him, was the only and successful bidder on the Juneau pulp timber unit offered for sale by the U. S. Forest Service. The sale was made on April 25. Mr. Cameron has made the following statement to PACIFIC PULP and PAPER INDUSTRY:

"Our present plans contemplate immediate study of the power and pulp wood timber stands in the vicinity of Juneau. It will be necessary for us to secure accurate data regarding the power situation at Long and Crater Lakes—and to this end measurements will be taken during the winter—or minimum flow season. This will determine in a measure the capacity of this district for paper manufacture—as this industry requires all year horsepower. It may only be necessary to check the records which the government has taken, over many years, at these water power sites, in order to be assured that the estimated horsepower will be continually available.

"In conjunction with the Forestry Service timber cruising will begin this summer."

C. A. Morden, publisher of the Portland Oregonian, who was named as one of the publishers working in conjunction with Mr. Cameron on the Alaska project, has announced that he has withdrawn his interest.

B. F. Hintzleman, assistant district forester in charge of the National Forests in Alaska, went to San Francisco to complete arrangements with Cameron.

"Two years of engineering work, and another two years for the construction of the plants will be necessary before the first shipload of paper comes out of Alaska," remarked Hintzleman. "Approximately $10,000,000 will have to be invested. In return he will receive 5,000,000,000 feet of pulp timber and the waterpower to manufacture it into paper.

"The effects on the labor markets of the Pacific Coast will, of course, be tremendous. It certainly is the turning point in the industrial life of Southeastern Alaska."

Mr. Cameron, accompanied by Mr. Heintzelman, and others sailed on the S. S. Aleutian for Alaska on June 4 to look over the ground.

Markets, Then Mills, Says McMillen

"There is no question about the future of the West as a producer of pulp and paper, but there is need for caution in going ahead with the expansion," remarks C. R. McMillen, vice-president and general manager of the Union Bag and Paper Company, New York, upon occasion of an extended visit to the Pacific Coast. Mr. McMillen has been on the coast for approximately one month, beginning early in May. He came west by way of California and expected to return via the same route. During his trip, which has been for pleasure and also to look over the field, he has visited many pulp and paper mills, lumber mills and logging operations.

Mr. McMillen points out that there are many kinds of pulp and suggests that those proposing to go into the manufacture of pulp make a study of the possibilities that their available woods offer and determine in advance what and where their market for that grade of pulp is.

"The West should approach this future expansion in the right light. It should look to its market first, find out what it can dispose of, what kind of pulp, how much and where. The market is the cause, the mill is the result. Find your market and then build to fit the opportunity. If that policy is followed the West has a wonderful future as a producer of pulp and paper."

Two Companies Called "Northwestern"

Two separate pulp and paper mills projects on the Pacific Coast have the name of the Northwestern Pulp and Paper Company.

There is one Northwestern Pulp and Paper Company planned for Astoria, Oregon. This project is operating under the laws of Oregon and was organized in 1926. The corporation is headed by Charles R. Flint of New York, and the board of directors is composed of prominent New York and Portland business men. A 120-mill sulphite pulp mill with by-products plants as well is to be built. Plans are now being drawn by engineers in the offices of B. T. McBain at Portland and will probably be completed in July.

The second Northwestern Pulp and Paper Company was incorporated for $500,000 under the laws of Delaware. W. S. Dowd of New York, with John Buffelin of the Buffelin Lumber Company, Tacoma, are planning a 50-ton sulphite mill to be built adjoining the Buffelin Lumber Company saw mill. Mr. Dowd has recently established his residence in Tacoma.

"Our plans are all drawn and the machinery has been selected," Mr. Buffelin states. "We are going to build a 50-ton mill for the present, but our plans permit us to add two more digesters and increase our capacity to 100 tons later on. We will use hemlock waste. We have access to some very fine high line hemlock and we have contracts with five mills to supply us with wood."

The staff of the Buffelin-Dowd project has been selected, according to Mr. Buffelin, but has not been announced. The saw mill has a surplus of steam and power for use by the pulp mill.

Mr. Dowd has been in New York and other points in the East for several weeks, and at last reports was coming West with his family by motor. Final announcement of the plans of the Northwestern Pulp and Paper Company at Tacoma were being withheld for announcement until the return of Mr. Dowd to Tacoma.

McBain Addresses Montesano Group

Calling attention to the great amount of woods and mill waste in the timbered areas of the Pacific Coast, and pointing out that there are some 500 paper mills in the United States without pulp supplies, B. T. McBain of Portland addressed a Chamber of Commerce meeting at Montesano, Washington, on May 20. Montesano, which is in the heavily timbered Gray's Harbor district, has timber and transportation, McBain said, but has hitherto lacked water. The Gray's Harbor district was pointed to as a logical future center of a pulp and paper industry, McBain said.

Aberdeen to Give Cheap Water

Rate schedules for industrial water are being worked out by the city of Aberdeen following the voting of $1,600,000 in bonds in May. The rates have been made attractive to pulp and paper mills, it is said, and ultimately will be lower than rates offered by other cities of the vicinity. Rates will diminish as the load factor increases. A zoning system may be adopted whereby mills located within the city's limits will have the advantage of a differential over companies located without the city's limits.

Give the Paper Bag a Fair Chance*

Heavy kraft containers are giving satisfaction in packaging bulky goods such as cement and flour, but prejudices have to be overcome.

THE place of the paper bag in all its appliactions is too extensive a subject to cover in one article. The following is limited to the reception of the paper bag in the cement industry and the outlook for increased use; and to some general conclusions drawn from the study of the total heavy paper bag market.

All marketing efforts fall under three heads: to create a demand, to maintain or stimulate a demand, or to divert a demand.

Since paper of nearly all classes is accessory to the progress of other industries, the marketing of paper bags must be an open effort to get business away from other styles of container.

As paper acquires new utilities it may participate in efforts to create more business. The transparent papers created a market for themselves because they made their contents more salable. There is no doubt that for many uses paper bags are a better container than cloth or jute, but the benefits are not sufficiently striking or are not well enough understood by most consumers to cause a strong preference for paper. There are few, if any, cases where bagging in paper will cause an increased demand for the contents.

Prejudices Are Real Obstacles

The same obstacles exist to progress in all industries. One of the most real, most stubborn obstacles is the customer's belief of a thing which is not a fact. When a certain cooking shortening was first launched, it was an entire failure. For some years previous to its introduction, there had been a number of unsuccessful artificial shortenings on the market. The new product was reckoned heir to their defects and the public knew positively that it would smell in hot biscuits. This prejudice was nation-wide and firmly set. When this prejudice was discovered by an extensive market survey and proper measures were taken to meet it, the new shortening became a sensational success.

Plenty of shippers and truck drivers "know" that a paper bag will break or tear or in some manner lose its contents of cement, but a practical demonstration as shown ought to be at least fair evidence that the kraft bag will stand a lot of hard usage.

Very much the same situation prevails in the market for heavy paper bags. I have talked with many types of users, owners of cement, plaster, flour and other mills, warehouse men, shipping clerks, truck drivers, architects, contractors and others who have to do with the paper bag. Unreasonable and stubborn prejudices are in existence, often as preposterous as they are damaging. One cereal buyer in a large wholesale grocery said he had never heard of flour being put up in paper sacks. Another miller knows that flour in paper sacks is not practical. Truck drivers are positive that a paper cement bag has to be handled with great care to avoid breakage and a shipping clerk explains at great length that a shipping truck could not be pushed under a paper bag of cement without surely tearing it.

All these mistaken, but positive, notions retard progress of the use of paper bags. There is, of course, but one way to cure ignorance and that is by education. Paper bag education should aim definitely at these prejudices. The success of the paper bag lies in diverting demand from other kinds of bags—and it takes heavier ammunition to divert demand than it does to create or sustain it. As I have examined the advertising of paper bag manufacturers, it has occurred to me that they have not measured the relative strength of the obstacles to the sale of paper bags and that their arguments are too general and not as specific or incisive as the merit of the paper bag warrants. In this connection one wrong notion may be much more serious than another in its effect of blocking sales.

Remove Prejudices

Referring to the shortening example, the belief that it smelled in hot biscuits absolutely prevented its sale. This prejudice removed, and it was removed by comparatively simple and quick means, sales began and rapidly increased to substantial volume. Other obstacles also existed, but the "smell' notion was the prime one, and until it was removed, no success was possible.

In 1926 the Pacific Coast used 16,810,000 barrels of cement, or about twelve sacks per capita. Over a four-year average the per capita consumption of cement on the Pacific Coast was 2.1 barrels, a larger per capita consumption than any other district in the United States. For gypsum plaster, the Pacific Coast territory was about 7,000,000 bags annually.

Paper bag containers for cement have been used for many years, but it is only within the last two years that they have come into substantial favor on the Pacific Coast.

Mills investigated report from a small amount to

*Melvin W. Cassmore, Research Engineer.

twenty-five per cent of their shipments in paper. It is stated that some eastern mills are using as much as sixty per cent paper. One mill says that their 1926 shipments were somewhat more than twelve per cent paper, the first quarter of 1927 were twenty-one per cent paper and the current movement approximately twenty-five per cent. This mill states that they are securing dealer acceptance of paper and that prejudices are being rapidly overcome.

It may be significant that this mill puts out a strong circular of its own recommending paper bags and citing the following advantages:

"Paper sacks eliminate extra accounting and correspondence; extra handling, counting, inspecting, etc.; extra cartage; return freight; extra investment in sacks; disputes, claims, friction due to missing or rejected sacks; losses through moisture or rain (these paper sacks are waterproof); losses through sifting, dust and adhesion to cloth sacks."

Permit Better Handling

In addition, paper sacks permit better, cleaner and quicker handling. They can be piled to any height without cross-piling and without warehouse packing. Each bag delivers 100 per cent of the contents to mixer. The cost is low—much cheaper than the old-fashioned bags with their multiple cost of handling and endless sources of grief.

When big jobs are handled in paper, arrangements are made for the salvage of empty sacks.

A Washington customer writes a letter to a cement company, very suggestive in a few words:

Gentle Men

My Sales of Cement here is very Slow as i have just Sold out of the Car Last fall i hope for a Little Better from now on Mostly all Small gobs around Ranchers Little Side Walk and so on Seems as thoe i don't have trade for only Small cars and seems as thoe Paper Bags keeps the Longest in Bitter Shape.

Yours truly,

Cement Offers Market for Paper Bags

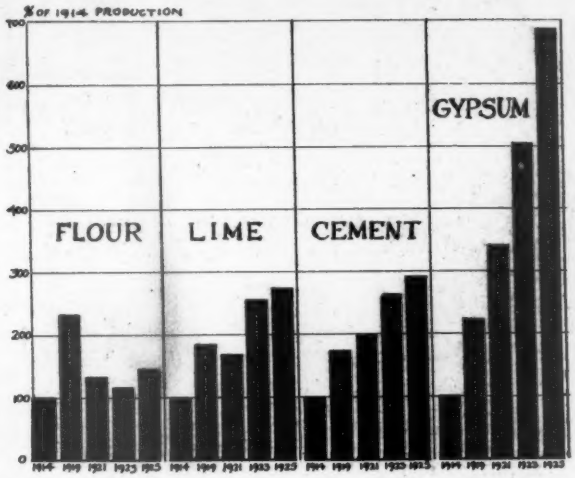
The cement industry is of great scope and is assured of continued growth. It is significant among industries for its substantial and consistent program of cooperative research and advertising. It is one of the few industries which has shown a steady growth from year to year. There are also continual new developments in the cement industry and new applications of concrete to industrial needs.

Quick hardening cement opens a new field and creates additional confidence and prestige for concrete products.

One of the most significant things developed in the concrete field, and which should be interesting to paper bag manufacturers, is a concrete pipe made by centirfugal action, capable of high pressures and of entering fields closed to concrete pipe.

Originated abroad, plants are now established in several cities on the Pacific Coast, a part of a national organization. Since it is very desirable that cement for the extreme density secured by this pipe be of first quality, a logical market for paper bag shipments is opened. The plant in one city alone uses a carload of cement a day, a possible daily consumption of $20.00 worth of paper bags.

1. The heavy paper bag has many advantages and few disadvantages as a container for heavy fine substances.



The percentage of increase in the value of the output of the flour, lime, cement and gypsum industries from 1914 to 1925. 1914, 100 per cent.

2. It is strong, practically waterproof, not likely to be attacked by rodents or vermin, inexpensive and delivers its contents in prime condition.

3. Exact tests under identical conditions of paper against cloth bags would be more conclusive than the present form of testimonials. Judgment is based upon comparisons.

4. Strong prejudices exist against the use of paper bags.

5. The cement manufacturer can do the most effective work in promoting the use of paper bags and where the mill is enthusiastically behind paper bags, the dealers and users will accept them in increasing proportion.

6. Statements are made to the effect that the Western Kraft stock is superior to the Eastern Kraft.

7. The most attractive field for paper bags is in the cement industry on account of its scope and also because the cement industry is one of the most progressive. Therefore, new uses and new applications for cement are likely to continue their appearance.

Killam Returns from Orient

Lawrence Killam, president of the British Columbia Pulp and Paper Company, Ltd., returned to Vancouver, B. C., on board the Empress of Russia, arriving on May 8. Mr. Killam reports the Japanese market in bad condition due to the recent financial disturbances there and also due to the civil war in China, which is a chief export outlet for the Japanese paper mills. Pulp stocks in Japan are large and prices are off.

Trade with Japan is difficult because of the long time elapsing between order and delivery. Prices can fluctuate badly in the interim and cause trouble.

The Japanese buy considerable pulp from mills in Canada and the United States. The use of a brush for painting characters instead of using pen and ink requires a special paper that Occidental mills can not afford to make because of the limited market, President Killam believes.

For their wrapping paper the Japanese use Manila hemp and sulphite.

Looking into this Overproduction*

THE pending pulp and paper development in the Northwest is attracting attention, not only from legitimate interests, but also from promoters not always well qualified to bring their plans to a successful conclusion. The interested investors do not, as a rule, possess the capacity to judge a project on its merits, and it is necessary to establish the fundamental conditions for a successful development in order that failures may be avoided.

On the other hand, there are current rumors to the effect that an overproduction is imminent, that a Northwestern development is unwarranted and that the industry is well able to meet the consumption with the present capacity and the normal expansion. It is necessary to analyze this overproduction before determining the lines along which a logical development should follow.

Future Production

Considering that the total paper consumption has increased from 5,490,000 tons in 1914 to 10,580,000 tons in 1925, it is illogical to base any conclusions on the present figures. Mills now planned will not be in full production until 1929, and the future production should be estimated with reasonable accuracy for 1930.

The tendency of the present consumption is to reach 14,700,000 tons in 1930, but allowance should be made for the exceptional increase during the prosperous years of 1925 and 1926, and it is doubtful if the consumption will reach 13,500,000 tons.

In spite of this indicated growth the Northwest cannot produce paper except for local consumption because of the following facts:

(1) The 674 Eastern paper mills now reporting to the U. S. Census of Manufactures produce an exportable surplus in all grades except news, and their normal expansion will take care of the increase in consumption.

Represent Large Investment

(2) These mills represent an enormous investment and if jeopardized by an unwarranted competition the sources of this investment will withdraw all support from Northwestern developments.

(3) When Northwest pulp can be shipped at a freight rate of $8.00 to the 537 Eastern paper mills purchasing every pound of pulp they consume it is unreasonable to ship paper at a freight rate of $13 a ton to compete with these mills which need pulp.

(4) The small local consumption in the eleven Western states is insufficient to warrant a present large development of the Western paper industry.

U. S. News Imports Large

This leaves news as the only paper now imported in great quantities—1,448,000 tons in 1925. However, there is already an overproduction in Canada, further increased when the large mills now under construction begin to produce in 1928. Old mills will probably be able to maintain a fair share of their previous output, but new mills face a fight for their share of the market with the possibility of price cutting and attendant evils.

New mills should not be built for a number of years, when the consumption has again caught up with the production, and at that time, the logical development will be in Alaska as Alaska probably offers the best possibilities for this development. News production on a large scale should not be launched in the Northwest for a number of years—present conditions to the contrary notwithstanding.

Pulps for the Northwest

This leaves the pulps for the Northwest. Of these the mechanical pulp is attractive because of the low cost of the plant proper and the Northwestern water power resources. However, the local consumption in the Northwest is so far quite limited and easily taken care of by one or two mills and shipments to the Atlantic coast does not leave sufficient margin for profit except under especially favorable conditions rarely attained. This because of the fact that the power cost is entirely out of proportion to the price obtained for the pulp. An 100-ton mechanical mill requires a power installation of about 7500 horsepower, and it is rarely possible to build a hydro-electric plant of this size for less than $75 per horsepower, with $100 a more probable figure. The consequence is that the power installation costs much more than the mill proper, and this power can be sold as such at a better profit than if used to manufacture pulp.

Chemical Pulps

The chemical pulps remain. Of these soda pulp is manufactured in a quantity sufficient to permit an exportable surplus, and, as it relies on hardwood and other Southern and Eastern sources of abundant raw material, and forms merely 6.3 per cent of the total consumption of pulp at the present time, without showing any tendency to increase, it does not offer great inducements for Northwestern manufactures.

Sulphate and sulphite pulps remain to be considered. Of all the chemical pulps, sulphate pulp shows the greatest increase in consumption, 472 per cent from 1914 to 1925, and from a consumption of 731,000 tons in 1925 heading toward 2,000,000 tons in 1936.

However, the South possesses more raw material suitable for this process than any other district, and, in addition, the South can produce sulphate pulp at a lower cost because of partial recovery of the most easily extracted turpentine and resins contained in the pines. There is no doubt of the fact that the South must produce the major portion of the future sulphate requirements, but it is equally true that the Northwest is justified in producing a fair tonnage at this time in order to stabilize the production of Douglas fir lumber and utilize raw material otherwise going to waste.

This leaves sulphite pulp as the major production in the Northwest, provided the conditions and the market are favorable.

Pulpwood Resources

The pulpwood resources available in the Northwest are too well known to require further comment. Western Washington alone can annually produce 1,000,000

(Turn to Page 42)

*By R. R. Montell, consulting engineer.

Bloedel-Donovan Mill Still Pending

Furtherance of the plans of the Bloedel-Donovan Lumber Mills at Bellingham to construct a $5,000,000 pulp and paper mill on property near the present lumber mill awaits principally two considerations.

The first is the action of the supreme court upon an appeal now before it to compel the state land commissioner of Washington to lease a portion of the harbor area for the site of the new plant.

The other question is that of water, and the next move is up to the city of Bellingham, but that city is giving every indication that it is willing to do its part in getting the mill.

R. H. Thompson, consulting engineer of Seattle, has recently completed an exhaustive study of Bellingham's water resources and needs and the Bellingham city council on May 16 accepted the engineer's recommendations unanimously.

Acceptance of the report will probably mean that a special election will be called to vote on a bond issue for water improvements. City commissioners have said the election requires some preparation and will probably be held in July.

Chief among the water extensions provided for in the proposed bond issue is the construction of a 16-inch cast iron main to the proposed site of the Bloedel-Donovan mill. This extension, with necessary side connections for the city's use, would cost about $125,000.

Bellingham has two present sources of water supply, Lakes Whatcom and Padden. The engineer's report states that Lake Whatcom can supply 15,000,000 gallons a day, but present pipe lines and tunnels will not accommodate a flow of that volume.

Potential resources of water include Skookum creek which has a minimum daily run off, as measured in 1926, of approximately 20,000,000 gallons. High water stages have shown a daily run off of 390,000,000 gallons. Another source of gravity water is the South Fork of the Nooksack river.

Pending the favorable decision of the supreme court on the harbor area appeal is the reorganization of the joint holdings of J. H. Bloedel, president of the Bloedel-Donovan Lumber Mills, and J. J. Donovan, vice-president, into one great organization out of which the pulp and paper mill will be financed.

Hawley Improves on Large Scale

Work on the expansion program of the Hawley Pulp and Paper Company mill at Oregon City, Oregon, continues and completion is expected about the end of the present year.

The greatest single improvement is the installation of a new 234-inch Fourdrinier. The machine when thoroughly broken in will have a capacity of 120 tons or more of paper daily and it is possible that a speed of 1500 feet per minute may be obtained.

Ground was broken on May 1st for the new project. A new two-story concrete building to house the finishing room will be necessary to take care of the increased capacity. This new building will be erected between the most recently constructed concrete building and the railroad tracks.

A new five-unit electrically driven ground wood mill is also being installed on the site of the old Portland Electric Power Company's freight house. In addition the sulphite production is to be increased fifteen tons per day.

The new paper machine, which is Beloit manufacture and driven with Westinghouse electric sectionalized drive, is replacing the old No. 4 machine, which was 164 inches. The No. 1 machine is also being overhauled and will have an added capacity of about ten tons a day.

Total improvements will cost about $1,500,000, according to Willard P. Hawley, Sr., and his son, Willard P. Hawley, Jr., who head the company. V. D. Simons of Chicago is the consulting engineer.

Raymond Ready to Furnish Water

Inquiries at Raymond, Washington, by pulp and paper interests has revealed the attiude of the city to be ready to furnish water whenever a mill is ready to come in. As a result of a recent inquiry by different interests, representative taxpayers were called into conference and the water question was discussed.

A request for 1,500,000 gallons of water daily for a pulp mill was considered. These interests asked a guarantee of 1,500,000 gallons daily for a first unit, with an ultimate demand of 5,000,000 gallons.

Such a supply would mean the construction of a 24-inch main from the South Fork pumping station. The investment would probably run about $75,000. A resolution was worded to read that the city would stand ready to furnish adequate water on request to such industries at rates commensurate with those of other coast cities similarly situated.

According to City Engineer J. E. Buckingham up to 14,000,000 gallons of water can be furnished daily by the city from its rights on South Fork, Butte Creek, the Willapa River and Fairchild Creek.

Although that supply could be shown to pulp interests before, there was always a slight question as to whether the city would be willing to making the necessary investment to bring it in when and where needed, which is now definitely settled by the resolution, and as a result there is expected to be considerable more real interest paid to Raymond as a possible pulp mill location in the future.

Raymond May Get Pulp Mill

Coupled with the announcement that Raymond, Washington, is ready to supply water as soon as a definite proposition to build a pulp mill is made, is the report that an interested group, said to be chiefly business men of Portland, has made inquiry at Raymond and may convert the now idle mill of the Hanify Lumber Company into a pulp mill.

It is said that plans have progressed to such an extent that articles of incorporation have been drawn and would be filed within a few weeks, and that construction would start soon thereafter. These interests are reported as having taken and paid for an option on the Hanify mill. The Trap Creek Logging Company, at present inactive, will probably be taken over also.

The Hanify mill is situated close to the business center of Raymond. It has a capacity of more than 100,000 feet a day and is fully equipped with dry kilns, box factory, planer department, sheds and docks and has rail and water transportation available.

Finland Paper Strike Averted

At the end of April commercial conditions in Finland continued fairly quiet, with a general seasonal revival, reports the U. S. Department of Commerce. The strike in the paper industry has been practically averted, owing largely to lack of unity among the unions and partly to government intervention.

T-R-A-D-E - T-A-L-K

Devoted to the Paper Trade of the Western States

Ayres Organizes Zellerbach Education Work

To further the policy of the Zellerbach Paper Company to render material assistance in up-building the printing industry and advocating the use of better paper by business houses, Rollin C. Ayres has been appointed Educational Director and has been assigned the task of building up and supervising the work of an Educational Department.

Mr. Ayres, whose headquarters are in San Francisco, outlines the activities of the new department as follows:

"A course is being prepared on the manufacture, uses and sale of paper for the employees of the company who are serving their apprenticeship in our warehouses and also for the men engaged in selling. This course is avoiding all technical expressions in the manufacture of paper, as we only wish to use such thoughts as will be readily understood by our young men, by the printers and the average buyer of printing.

"Another course is being prepared on warehousing, order filling and sales procedure with the idea of standardizing our operations all over the Pacific Coast. The course includes lectures to our sales force in group meetings in our several divisons.

"From time to time, I will make talks before advertising clubs, service clubs, printers organizations and trade associations. The talks will pertain to advertising and selling.

"In connection with this activity, we will also show two motion pictures depicting the manufacture of paper from the felling of the trees in the forest to the production of the finished sheet. Lectures will accompany the showing of the films.

"One important phase of the work will be contacting the customers of our company for the purpose of helping them in the selling of better printing papers and in increasing the use of printing.

"In this field work, I will have occasion to stress the advantages of direct mail advertising and show how the individual firm may apply it in his business. Through this contact work in the field, sales promotion ideas will be gathered and relayed to our sales force of the Pacific Coast so that the suggestions may be used with advantage to our customers."

Offers Trophy for Printing Display

A trophy for the best display of printing on display at the Pacific Coast Advertising Clubs Association convention at Portland, Oregon, June 19-22, has been offered by Blake, Moffitt & Towne, San Francisco paper jobbers.

The trophy is a handsome desk set. Any advertiser, printer or advertising agency is eligible. One condition is that the entire display must be of Pacific Coast origin.

Western Pacific Company Moves

The Western Pacific Paper Company of Los Angeles has moved from Industrial street to Pico and San Pedro streets.

MacLean to be San Jose Manager

N. W. MacLean, well-known in the paper trade in Central California, has been named manager of the new San Jose, California, division of Blake, Moffitt & Towne, San Francisco paper jobbers. Mr. MacLean has been located at San Jose for several years and is well-acquainted with the trade in that section.

The Blake, Moffitt & Towne firm is erecting a new building at San Jose, adjoining its present temporary quarters at 353 N. San Pedro street, to house its new division office. A complete line of fine and coarse papers and twine will be carried.

Schoenbucher Visits Northwest

N. A. Schoenbucher, secretary of the wrapping paper division of the National Paper Trades Association, after attending the convention of the Pacific States Paper Trades Association at Del Monte, journeyed northward along the Coast calling on paper houses. Mr. Schoenbucher is explaining the new method of arriving at costs in paper merchandising known as the "Net Profit Control System." From Seattle he went East to Spokane on June 3.

Correction

Emmet W. Buckley is president of the Western Pacific Paper Company, Los Angeles. On page 20 of the May number of PACIFIC PULP and PAPER INDUSTRY Mr. Buckley was referred to in error as the Los Angeles manager of Blake, Moffitt & Towne. Mr. Buckley has no connection with last named organization.

Business Is Good Says Willson

Business is holding up to a satisfactory level on the Pacific Coast declared Sidney L. Willson, president of the American Writing Paper Company, recently as he left San Francisco for his company's factory at Holyoke, Massachusetts. Mr. Willson spent two weeks in California and was the guest of W. J. McCormick, San Francisco, Pacific Coast manager of the company.

President Willson is very optimistic regarding the industrial future of the Pacific Coast. He has been west frequently in recent years and hopes to make the trip annually in the future.

As to California's hospitality, Mr. Willson declared that he believes it surpasses even the far-famed hospitality of the South.

Pritchard Heads Sales at Bonestell

Charles Pritchard, pioneer in the paper trade along the Pacific Coast, was named general sales manager of Bonestell & Company, San Francisco paper jobbers, on May 15.

Mr. Pritchard has been in the paper business in the West since 1910 when he became Pacific Northwest representative for the Cupples Company, a paper firm of St. Louis, Mo. Mr. Pritchard remained with the

Cupples people until 1918, when he resigned to enter the war service.

After the war, in December, 1919, he became sales manager of the Pioneer Paper Company, of Los Angeles, and remained with this firm until it was purchased by Blake, Moffitt & Towne in 1924.

In 1924 Mr. Pritchard organized the Paper Supply Company of Los Angeles and became its vice president. Recently he sold his interests to join the Bonestell house.

Mr. Pritchard becomes general manager of sales of both fine and coarse paper. His is a new position as Bonestell previously has not had a manager of all sales forces.

While in the south, Mr. Pritchard was president of the Los Angeles Sales Manager's Association.

No new sales plans have yet been announced by Mr. Pritchard. He is making a survey of possibilities and under his direction the selling department of the Bonestell firm will be developed in every direction possible.

Grays Harbor Pulp Buys Timber

More than 100,000,000 feet of standing timber in the Norby Bay and the Lower Humptulips regions in the Gray's Harbor district of Washington has been bought by the Gray's Harbor Pulp Company of Hoquiam. Most of the timber is hemlock and spruce, between 4,000 and 5,000 acres of timberland adjacent to tidewater being involved in the deal. The consideration was not announced.

The Gray's Harbor Pulp Company is now beginning construction of a large plant in Hoquiam. The company will not start logging the timber for some time. It is expected that sawmill waste will furnish raw material during the early operation of the plant.

Fire Does Not Stop Los Angeles Mill

Despite the burning of one of the four large warehouses of the Los Angeles Paper Company recently, causing an estimated loss of $100,000, the roofing mills and other units of the plant were in operation the next day. The Los Angeles Paper Manufacturing Company has been engaged in the manufacture of asphalt roofing and paper products for more than twenty-five years. Joseph Brown is president; Joseph Brown, Jr., is vice-president; and R. E. Brown is secretary-treasurer.

Engineers Prepare Water Plans

Preliminary work on the project to increase the water supply of the city of Reedsport, Oregon, to allow for an additional 6,000,000 gallons of water a day to supply the proposed new pulp and paper mill, is under way, according to Baar and Cunningham, consulting engineers, in the Spalding building, Portland, who are in charge of the project.

Zellerbach Directors Re-elected

The retiring board of directors of the Zellerbach Paper Corporation was re-elected without change on May 23rd at the annual meeting of the stockholders.

The directors are: M. R. Higgins, chairman; I. Zellerbach, J. D. Zellerbach, H. L. Zellerbach, H. H. Zellerbach, J. Y. Baruh, M. M. Baruh, L. A. Colton and F. C. Stratford.

Ayerst Visits New York

A. B. Ayerst, pulp and paper mill engineer, Tacoma, Washington, was a visitor in New York recently. Mr. Ayerst is an enthusiast over the Pacific Northwest development.

New Building for Glass Works

Work has been started on a new building at 15th and Folsom streets to house the corrugated paper department of the Illinois-Pacific Glass Corporation. The corrugated paper department is at present located at 15th and Kansas streets and it is expected the move to the new quarters will be made late during the coming fall, probably in October. New and modern equipment will be installed throughout the plant in its new location and the present capacity will be doubled.

Varied Attendance at Madison Laboratory

There has assembled at the U. S. Forest Products Laboratory at Madison, Wisconosin, within recent months the largest group of foreign research men ever gathered at the federal laboratory at one time. Foresters and chemists from England, Australia, Sweden, Finland and Mexico have been detailed to the laboratory by their various governments and employers for periods ranging from thirty days to two years.

Youngman Has New Office

Frank Youngman, of the Pacific Mills Ltd., with offices at Vancouver, B. C., and also representative of the Crown-Willamette interests in Canada, now has his office in 1422 Standard Bank Building, Vancouver. The new office adjoins and has interior communication with the offices of the Pacific Mills, Ltd., at 1414 Standard Bank Building.

Everett Continues Improvement

Production at the Everett Pulp and Paper Company's mill at Everett, Washington, continues with little change. The mill is now making about forty tons of paper a day, principally book and other papers of the better class. Work is now being done on the older machines with a view to increasing the capacity of the plant to sixty tons daily ultimately.

Alaska Timber Bidders Get Power Too

Both the Zellerbach interests and George Cameron of San Francisco, who recently were awarded separate pulp timber units in Alaska, have been granted power permits on applications previously filed with the Federal Power Commission.

Stenstrom In from Ocean Falls

D. G. Stenstrom, resident manager of the Pacific Mills Ltd. mill at Ocean Falls, B. C., was in Vancouver during the last week of May for a short vacation and a series of conferences with the officials in the Vancouver offices.

Port Alice Capacity Now 100 Tons

Installation of a new digester at the Port Alice mill of the British Columbia Pulp and Paper Company, Ltd., has increased the capacity there from eighty-five to 100 tons. Production in the new unit began about June 1.

Guy C. Howard in New York

Guy C. Howard, consulting chemical engineer, Seattle, after a stay of some six weeks in New York and the East, was expected to return to Seattle about June 10.

It takes 36 acres of trees to produce the paper for one day's edition of one of our large newspapers.

Set-up
Folding
Corrugated
Solid Fibre

BOARDS and BOXES

A department for interests allied with the pulp and paper industry

Board Mills and Paper Converters

A. J. SCHOEPHOESTER

Schoephoester Expects Good Attendance

Good representation from all parts of the coast and particularly from the northern cities is expected at the thirteenth annual convention of the Pacific Coast Paper Box Manufacturers Association, according to President A. J. Schoephoester of Seattle. Seattle will probably have an 100 per cent attendance.

"The chief aim of the organization now," President Schoephoester declares, "is to promote a closer co-operation within the industry itself. We are to seeking to better our business relations and practices all the time. What benefits one can benefit all. Everyone can benefit by working with others in the industry through the association."

M. L. Patterson Convalescing

M. L. Patterson, resident manager of the Northern Board Mills, Paraffine Companies' plant at Sumner, Washington, has been ill in the Providence hospital at Seattle for approximately one month. At last reports he was expected to be released from the hospital about June 10 and it is said that he would take a rest for several months, probably going south for the convalescent period. During Mr. Patterson's absence H. P. Hartley is acting as resident manager.

Ready for 13th Annual Convention

All arrangements are now complete for the Thirteenth Annual Convention of the Pacific Coast Paper Box Manufacturers' Association which will be held at Del Monte, California, on June 27, 28 and 29.

From reports received by the Invitation Committee it is evident that the attendance this year will surpass all previous records. Several new members have identified themselves with the association.

President A. J. Schoephoester, of Seattle, has assured the committee of a goodly attendance from Seattle and Portland. Russ Barker, of Vancouver, B. C., will also be present, so that the northern section of the Pacific

TENTATIVE PROGRAM OF CONVENTION BUSINESS SESSIONS

Monday, June 27

9:00 A. M.—Roll call. Minutes of last meeting.
President's address and annual report.—by A. J. Schoephoester.
Election of new members.
Financial report and correspondence.—By Hugh Peat, General Secretary.
10:00 A. M.—Address of welcome.—Joseph C. Meyerstein.
10:15 A. M.—Address by Miss Foster, of Los Angeles, Subject: "Purpose and Progress."
The speaker will be introduced by Chas. Ruble.
11:15 A. M.—National Convention and Coast representation.—By Fred W. Kewell.
11:45 A. M.—Appointment of committees.—Gus Trost.
12:00 —Luncheon.
The afternoon will be devoted to golf and other attractions.

Tuesday, June 28

9:00 A. M.—Paper on "Convention Spirit."
—By Hugh Peat.
9:15 A. M.—Business session.
Paper on "Constructive Leadership and Its Efficacy in Eliminating the Profitless Order."—By Wm. J. O'Donnell.
This will be followed by a general discussion on the more important features of the paper.
10:30 A. M.—Paper on "Color Plate."—By Ed. Russ.
11:00 A. M.—Paper on "Standards of Practice in Paper Box Industry We Should Adopt."—By J. A. Benedict.
12:00 —Luncheon.
No afternoon session.

Wednesday, June 29

9:00 A. M.—Paper by C. A. Elvin.
9:30 A. M.—Paper on "Constructive Sales Methods—The Great Need of the Industry."—By Sanford Rice.
There will be a general discussion on Mr. Rice's paper.
11:00 A. M.—Paper on "Warehousing and Split Deliveries to Customers.—By C. A. Morgan.
General discussion on Mr. Morgan's paper.
Unfinished business.
Reports of committees.

Coast Association will be much more of a factor this year than last. Chairman Ralph Comstock and his co-workers are to be congratulated on their Invitation Committee efforts.

The Entertainment Committee has gone the limit in providing for the comfort and amusement of guests. Nothing has been overlooked in an effort to provide entertainment that will appeal to every taste. Golf, swimming, automobile tours through Caramel and vicinity, dinner dance and entertainment, boat trips, billiards and pool, bridge, all these and more are on the entertainment program.

Hotel arrangements are in the hands of a committee headed by Walter Heller.

Victoria Paper Box Company Expands

Improvements are being made and new lines of trade are being solicited by the Victoria Paper Box Company, Ltd., of Victoria, B. C., since the reorganization of that company on March 15. The company was formerly known as Davis & Schmeelk, Ltd. The finances have been reorganized and some new capital added.

Mr. R. B. Wilson is the president of the new organization. He is well known in Victoria. He is the son of Biggerstaffe Wilson whose name is known in both the United States and Canada.

The vice president and active manager is R. L. Challoner. He was formerly with the Canadian-Puget Sound Lumber and Timber Company of Victoria. H. S. Beckton is secretary-treasurer and is the only one of the new officials who was associated with the company under the former name.

The plant is the only one of its kind in Victoria. It occupies two floors of a building on Wharf street. Additional space has been taken on the lower floor level and this move postpones for the time being an earlier decision to move into other quarters. A new office has been partitioned off and equipped in the front of the building.

One of the principal improvements made since the reorganization is the installation of a Self-Locking Carton Company, Chicago, machine for the manufacture of egg-case fillers. According to Mr. Challonder there is quite a market for these fillers in the Canadian West as there is no machine manufacturing this filler west of Ontario.

The Victoria Box Company is buying its board from the Sidney Roofing and Paper Company, also of Victoria. There is ample storage space on the lower floor.

On the lower floor there is in addition to the Self-Locking machine, scorers and corner cutting machines.

The upper floor, which is on the street level, has printing presses, cutters, taping machines, stitchers, and gluing machines.

The Victoria plant is quite flexible. It is making all kinds of boxes, both folding and rigid.

"A peculiar thing about the bakery demands here," Mr. Challoner pointed out, picking up one of the cake cartons which his company is making, "the bakeries demand a box of unusually high quality. A cheaper box would serve the purpose every bit as well, I believe, but they've become used to the extra quality box and just will not have the cheaper box now."

The future for the paper box business seems to be large, according to Mr. Challoner.

D. H. Patterson Visits Northwest

D. H. Patterson, general manager of the board and paper division of the Paraffine Companies, Inc., spent several weeks recently in the Pacific Northwest. He returned to his desk at San Francisco early in June.

John J. Weglein, assistant sales manager of the Paraffine's board and paper division, left early in June for a three weeks vacation trip to Alaska. He expected to return to California in time for the convention of the Pacific Coast Paper Box Manufacturers Association to be held at Del Monte, California, June 27-29.

Suggests 80-Pound Bag

A paper bag to hold eight pounds of fish meal instead of the customary 100 pounds is being advocated by the Bates Valve Bag Company. One hundred pounds of fish meal requires a wider bag than can conveniently hold the product. W. S. Weaver, Los Angeles district manager, points out that the 80-pound bag is convenient for handling, and makes multiples of twenty-five to the ton, which is a convenient figure.

With regard to the use of paper bags by the cement and plaster industry Mr. Weaver states that some of the plaster companies are shipping as high as seventy-five per cent of their products in paper.

Crescent Board to Argentine

A shipment of board from the Cresent Board Mills at Port Angeles, Washington, was loaded recently for the Argentine.

Schmidt Jr. Back From Europe

Richard Schmidt, Jr., secretary of the Schmidt -Lithograph Company, San Francisco, returned recently from a three months' trip abroad, during which he visited Mediterranean points and interior cities in Europe. Mrs. Schmidt accompanied him.

Mr. Schmidt came home in time to help complete arrangements for the thirteenth annual convention of the Pacific Coast Paper Box Manufacturers Association at Del Monte, California, June 27, 28 and 29. He is a former president of the association and was chairman of this year's convention committee on arrangements.

The foreign trip was strictly for pleasure, Mr. Schmidt said on his return, and while away he forgot all about business, although he was tempted, he added, to investigate conditions in his line in some of the cities he visited.

Mr. Schmidt returned home a great admirer of Benito Mussolini, "Il Duce", premier and dictator of Italy.

"Mussolini is bringing wonderful benefits to Italy," Mr. Schmidt declared, "and if he lives long enough and retains his present power, Italy will make tremendous economic steps within the next few years.

"I was in Italy twenty-three years ago and came home with the impression that things were lax, such as trains starting half an hour late always and reaching their destination two hours overdue. On this trip, I was surprised to see the trains on time and I asked about it.

" 'They must be on time;' my informant replied. " 'Mussolini has ordered that trains must be on schedule. If they are not on schedule, Mussolini will take them away from the companies'."

E. S. Collins Has New Office

Mr. E. S. Collins, president of the Ostrander Railway and Timber Company, the Silver Lake Railway and Lumber Company, and the Mt. Adams Pine Company, has moved his offices from 477 Pittock Block, Portland, to 907 Terminal Sales Building. Mr. Collins has been following the development of the pulp and paper industry in the West with interest.

New Types
New Models
New Machines

EQUIPMENT

Manufacturers of, and dealers in, equipment used by pulp and paper mills, board manufacturers, converting plants, paper merchants, or any other branch of the industry may make their announcements in this department.

New Dealers
New Branches
Appointments

Walker Stones Require No Seasoning

Natural sandstone found in the quarries at Wilkeson, near Tacoma, Washington, have found their place in pulp manufacturing since 1920 when they were introduced. An advantage claimed for this stone, which is cut in one solid piece, is that the stones require no seasoning. The advantage to the user in this is that no large stock need be carried on hand. Location in the West is, of course, also an advantage to Western users from the point of quick deliveries. These stones are being manufactured by the Walker Cut Stone Company of Tacoma.

Coast Service for Record Valves

Service for the Pacific Coast pulp and paper mills on the Standard, Improved and Bonnetless valves made by the Record Foundry and Machine Company of Livermore Falls, Maine, is now available, according to an announcement made by that company. A. H. Cox & Company, 1757 First First Avenue South, Seattle, is stocking the Record valve.

Record valves were used extensively in the new Shelton mill of the Rainier Pulp and Paper Company. Other users of these valves on the Pacific Coast are the Oregon Pulp and Paper Company, Salem, Oregon; Washington Pulp and Paper Corporation, Port Angeles, Washington, the Paraffine Compies, and others.

The Improved valve made by the Record company is made to eliminate the shutting off of the valve when cleaning it out. The cleaning is accomplished through patented cleanouts. The Bonnetless valve has a patented feature with no bonnets to plug up and is also equipped with renewable seats.

Allis-Chalmers Has New Rod Mill

A recent bulletin issued by the Allis-Chalmers Company announces a new rod mill which is being applied as a beater and refiner of pulp stock. The rod mill used in connection with the paper industry has a horizontal shell with hollow trunnions at either end for feed and discharge. The grinding medium consists of high carbon steel rods which give a beating effect in tumbling as the shell rotates. One of these mills has been installed by the National Paper Products Company at Stockton, California. The mills are made in four sizes.

Will Handle Non Clog Pumps

Thomas C. Lovett, Paper Mill Equipment Company, Portland, Oregon, has announced that he will handle the Non Clog pump of the American Well Works as well as other American Well equipment that is applicable to the pulp and paper field. Mr. Lovett completed arrangements with the American Well Works on May 20.

Rainier Has New Type Beater

The beater equipment installed at Rainier Pulp and Paper Company at Shelton, Washington, is of the latest Dilts new type design, built with the roll offset toward the back end of the tub thus utilizing the velocity which the roll imparts to the stock by deflecting the stock off the back end circle immediately into the back channel. This eliminates the dead spot usually found at the foot of the backfall in ordinary design beaters and also greatly increases the speed of circulation. The beater is also equipped with the Lachmann patent midfeather designed to force the stock nearest the midfeather outward which insures uniform beating, mixing and coloring. In the Rainier equipment the beater is also furnished with the Dilts special hood extractor which permits the beater to be operated as a continuous unit if desired.

Draper Felts Represented On Coast

The Pacific Sales Company, Security Building, Portland, Oregon, have been appointed as Pacific Coast sales representatives for the Draper Brothers Company, makers of "The Draper Felt" for all kinds of paper. C. M. Dilley, manager of The Pacific Sales Company, is well acquainted among the pulp and paper mills on the Pacific Coast.

Carthage Equipment for Tacoma

The Carthage Machine Company of Carthage, N. Y., announces that W. S. Dowd, who is sponsoring the new Northwestern Pulp and Paper Company mill at Tacoma, Washington, has placed a contract with them covering all of the wood room equipment. This includes a high speed slab chipper developed by the Carthage company specifically for the Western mills for use on slabs and edgings.

Sandy Hill Chooses Officers

At the annual meeting of the Sandy Hill Iron and Brass Works, manufacturers of paper making machinery and equipment, held recently, the following officers and directors were elected: president, A. J. Kennedy; vice president, Richard C. Tefft, Jr.; secretary and treasurer, James M. Ferris; directors, A. J. Kennedy, Richard C. Tefft, Jr., James M. Ferris, Harry L. Broughton and Charles W. Kellogg.

Dilts Beaters at Tumwater

The Tumwater Paper Mills at Tumwater, Washington, are installing four of the Bilts new type beaters of 2,000 pounds capacity, motor driven through Texrope drives. These beaters are embody all the better features in the years of experience behind the Dilts Machine Works, Inc., Fulton, N. Y.

Northwest Lead President Returns

Mr. John T. Lund, president of the Northwest Lead Company, after returning from an extensive business trip including all financial and industrial centers of the United States, during the past two months, states that business as a whole is on a very sound basis and an optimistic feeling exists in all sections. The two centers where business was at a rather low ebb were

Minneapolis, Minnesota, and Denver, Colorado. Even there business in general was looking forward to a good summer and fall.

Texrope Inventor Concludes Western Trip

Walter Geist, chief engineer of the Transmission Division of the Allis-Chalmers Company, Milwaukee, and inventor of the Texrope drive, returned to the home offices of the company on May 24 after a stay of approximately two months on the Pacific Coast. During that time Mr. Geist made a thorough canvass of the pulp and paper mills from Los Angeles to British Columbia.

"I think the West is due for a big development in the pulp and paper field," Mr. Geist stated. "Everything seems to point that way for good sound development that has to come."

Walker Pulp Stones for B. C.

Ten pulp stones for the Pacific Mills td., at Ocean Falls, B. C., were shipped from Tacoma, Washington, late in May. The stones are of one piece cut from the natural sandstone in the quarries at Wilkeson, Washington, by the Walker Cut Stone Company.

Rod Mill Beater at Crescent

Experiments with rod mills carried on by the Forest Products Laboratory at Madison, Wisconsin, for the past two or more years have now gone past the experimental stage and commercial applications of the rod mill for beating pulp are being made. What is perhaps the first installation of a rod mill for beating on the Pacific Coast has just been completed at the Crescent Board mills branch of the Paraffine Companies at Port Angeles.

The Marcy rod mill at the Crescent plant was put into operation on May 26 and is being used for beating sulphite pulp. Claims made by Mr. Sidney D. Wells of the Paper Laboratories, Inc., for this new type of beating are greater strength of board, a saving of approximately fifty per cent in driving power, and hydration without excessive rupture of fibers.

The rod mill, which has been borrowed from the mining industry, as applied to pulp and paper production, may be briefly described as a hollow cylinder mounted on hollow trunnions so as to rotate about its long axis placed horizontally. The cylinder is filled with metal rods a few inches shorter than the cylinder and these are free to tumble and give the beating effect.

Mr. Wells, who was for a long time associated with the Forest Products Laboratory, is a chemical engineer and paper technologist in charge of the laboratory of the Paper Mill Laboratories, Inc., of Quincy, Ill. He made a special trip West to supervise the initial operation of the rod mill installation at Port Angeles.

Elwell Parker Trucks Made It Easy

When V. D. Simons, designing engineer for the Rainier Pulp and Paper Company started the work, among his earliest purchases were four Elwell Parker Storage Battery Lift Platform Trucks and one Elwell Parker Storage Battery crane truck. These machines were all used during the construction of the plant and are now part of the freight handling system. The saving in labor affected by the use of these trucks nearly paid for them during the construction period, the men who used them say.

The lift truck idea of the Elwell Parker Company eliminates the costly man handling of material to and from the floor. Everything is placed on platforms, the loads running from two to three tons each, the truck slides under the platform, lifts the load and carries same to the shipping point, either car or barge.

Elwell Parker trucks get under the load and lift, then speed away to the loading point, thus making for easier and better handling.

One man with an electric truck is equivalent to six men with hand trucks, moving the commodities faster and cheaper, and practically eliminating damage to the material.

The telescopic, revolving boom crane truck of the Elwell Parker Company is an exceptionally handy tool. It can reach into box cars and pick up heavy pieces of machinery, such as pumps, large valves or similar commodities, pile them in storage in the warehouse, or in many cases putting them in place for assembly.

For making lifts around the machines, installing new parts or assisting the men when a lift is to be made for adjustment, the crane truck is invaluable. In between times the crane truck is used in the warehouse for piling or down piling or storing material of any nature, and when a heavy piece of machinery is to be set in one of the tools in the machine shop, in place of having to rig up with a chain block the electric crane truck is called into service, carrying the machinery direct to the tool and spotting it in place.

The representatives of the Elwell Parker Company on the Pacific Coast are trained, experienced men in the problems of rapid and economical handling of freight and heavy materials of all natures. They make a study of each customer's requirements and his particular handling problems and from the wide range of equipment which the Elwell Parker Company build, they are able to intelligently and properly recommend the equipment suitable for each individual need.

The Northwest branch of the Elwell Parker Company is handled by the Colby Steel and Engineering Company, 456 Central Building, Seattle. The California interests of the company are represented by Ira G. Perin, 200 Davis Street, San Francisco, California.

Southwark Presses Handle Rainier Pulp

Shipping demands the greatest tonnage in the least space. Applied to pulp in sheets this means compression to a high degree. At the Rainier Pulp and Paper Company two hydraulic presses are mounted at the end of the machine to press the cut sheets of pulp into compact bundles weighing about 400 pounds each. This size bundle is easily handled in the press, in the warehouse and in shipping.

Let's Build For Perpetuity*

THERE are many factors to take into consideration in making for permanency in the pulp and paper industry, particularly in the west. There are laws to be changed, abrogated and amended; new laws to be created that will protect the industry first, then such laws as will protect other industries affected by the pulp and paper industry. Laws governing forestry matters are a necessary result of such an industry as that of pulp and paper manufacturing, for the Pacific Coast, embracing the great stands of pulp timber, cannot disregard the enactment of adequate laws governing the protection and utilization of that important resource.

Beside those of a legislative character, there are numerous natural and economic factors to be considered in the establishment of the industry, ones that are most vital. Not the least of these is a private reforestation program. Appropriate foresight will also be necessary in determining how to take care of the troublesome problem of waste disposal. This bobs up frequently and is of sufficient seriousness to disturb an otherwise ideal situation. These pitfalls of the developing industry may all be safely bridged by prompt and efficient application of sound wisdom and well considered action by the leaders of the industry.

A Commission Advisable

But little can be accomplished by way of establishing sound industry without concerted action. One plan, much in vogue in the East, is the co-operation of both executives and technical men, with a legal adviser or two, to take up the many problems affecting the technical end of the pulp and paper industry. This commission, or technical association as it is more commonly known, is limited, however, to purely technical problems, but often it is found that a technical problem is linked with an economic or a political one. Thereupon a special committee is called into existence in order to follow that particular problem clear through.

Make Timber Perpetual

Because the Pacific Coast has such excellent possibilities for pulp timber in perpetuity, adequate measures must be taken to make it so to a certainty. The possibilitie are there, but a few false steps at the beginning may change possibilities to improbabilities. Perpetuation of sufficient areas of forest growth to take care of the probable great expansion of the industry in the West in the coming years is going to mean something—no little effort is going to be put forth to make the industry permanent on this score. Perpetuation of the industry through a wise harmony with the lumber industry is vital—in fact, it would be a fatal step to ignore the saw mill in the West and not consider it in every forward step that is taken by the pulp and paper industry. Then, in order to make it a perpetual industry—that it might not be legislated out of existence, so to speak—its many-faced contact with the various state and federal laws must be closely and carefully noted. While it is true that there may be a more generous and broad-minded view taken in the West in these matters, legislation is a very uncertain commodity in any state or province or country.

A case in point, of recent date, is that of pending stream pollution laws in the state of Pennsylvania, almost resulting in locking the stable after the horse was stolen. In this case, the law-making bodies of the Keystone state, being present politicians and not technical men, and hearing the undoubtedly partly justified complaints of the general water using public, are quite ready to so handicap the paper industry as to drive much of it out of the state—which would be a real industrial calamity.

A careful approachment to this delicately balanced situation by both the legislators and the special commission of the Pennsylvania paper makers at an earlier period might have resulted in a satisfactory remedial adjustment of the problem. Undoubtedly abuses do occur in individual instances, but a wholesale incarceration of one of the largest industries of the state is an abuse of much greater proportion.

West's Reforestation Plans Indefinite

At the last election in the state of Washington, a reforestation bill was killed by a narrow margin. Its purposes rather vague and all too general, a majority of the voters decided against it. In the public's mind, it carried the (unmerited perhaps) odium of being fostered by big lumber interests. No doubt the reforestation of the future will include as an important integral part of it the pulp and paper industry, without which it is only a half-measure indeed.

The state of Michigan, in a last herculean effort at bringing back into existence at least a part of its forestal glory, enacted a law at the last session of its legislature, known as the "Senate (Pearson) Bill No. 165 and that, in the mind of the writer, is worthy of careful analysis. This law gives the Department of Conservation authority to establish and maintain commercial forest reserves. In effect the owner of land, which is able to produce a forest crop but is quite unsuitable for agriculture or other purposes, may pledge his land to the keeping of the state which cares for it until the timber is ripe for harvesting. The owner pays a yearly tax of five cents per acre on pine land and ten cents per acre on hardwood land. When the owner cuts and sells the ripe timber, twenty-five per cent of the determined stumpage value goes to the state. The Michigan law appears to contain some very wise provisions and some, perhaps, that might be regarded as non-feasible in the West.

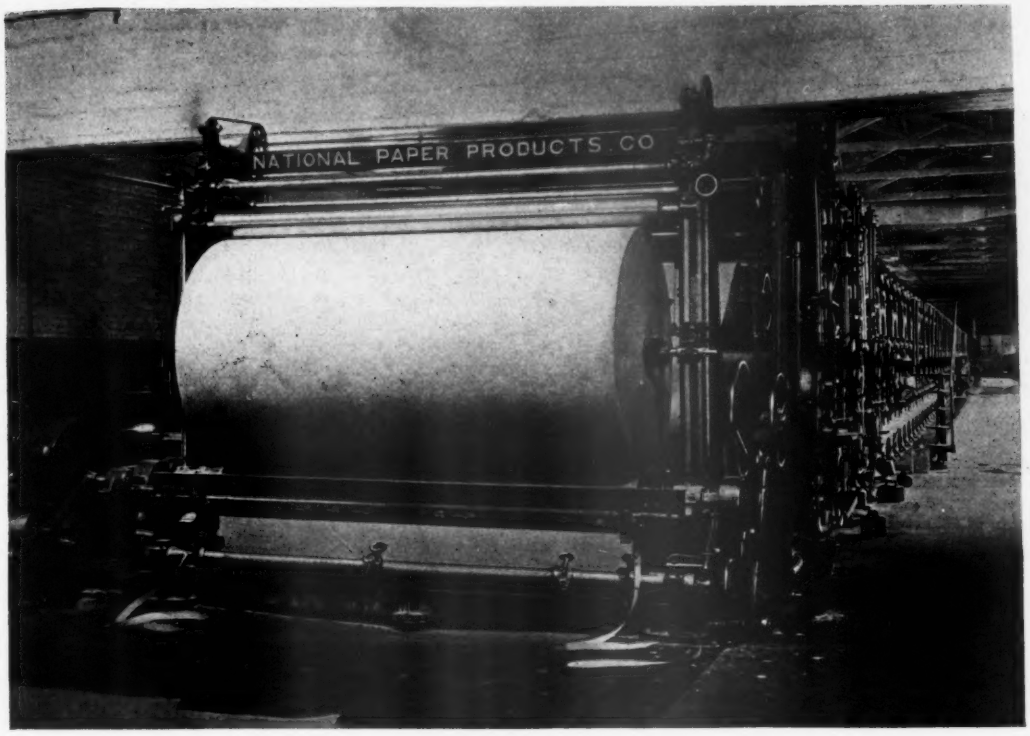
The Michigan Law

The point is, however, that the Michigan law is designed to meet the need as the people of the state of Michigan see it; and the need in that state is colossal. On account of the numerous windings of "red tape" that the act is bound up with, it may not prove so popular and be so completely taken advantage of as the creators of the measure hope for.

The timbered states of the Pacific West should, however, scrutinize most carefully this Michigan forest reserve bill. It will serve as a monitor to our efforts if

(Turn to Page 36)

*By C. R. BERRY



One of Two 115 Langston Winders at Stockton, California, Mill of National Paper Products Company.

Langston Slitters at National Paper Products Mill Company

VIRTUALLY all the corrugated box machinery at National Paper Products Company's new South Gate plant was furnished by Samuel M. Langston Company. Also, Langston equipment is used extensively at this same company's San Francisco plant.

In addition to equipment for making corrugated shipping cases, we build a complete line of Paper Slitters, and have supplied several units to The National Paper Products Company.

The illustration above shows one of two 115" Langston Winders in service at the Stockton mill; and in addition there is a 62" Langston Rewinder in operation at the San Francisco plant.

Langston Slitters are built in widths from 30" to 165" wide, and wider, and in types to meet every mill requirement. They rest on substantial bedplates, have modern features, such as roller bearings, turned and bored drums, shafts made from hammered steel forgings, all steel gears. And Langston Slitters include the Langston winding principle and "Shear-Cut" which have proved their soundness in numerous installations over a period of thirty years.

SAMUEL M. LANGSTON CO.

CAMDEN, NEW JERSEY

Representatives: A. H. COX & CO., Inc., Seattle, Washington

Sulphate mill of the Vancouver Kraft Mills, Ltd., on Howe Sound in British Columbia, which is again operating.

Port Mellon Making Pulp

The pulp mill at Port Mellon, B. C., again began producing pulp late in May after being idle for several years. The plant, formerly known as the Howe Sound Pulp and Paper Company, is situated on Howe Sound near Vancouver, B. C. About April 1 of the present year it was taken over by the Leadbetter interests in the United States, with some Canadian and British capital, it is said.

F. W. Leadbetter, president of the Leadbetter mills in the United States, is president of the new company operating the Howe Sound plant, now known as the "Vancouver Kraft Mills, Ltd." W. B. DuBois, vice-president of the Columbia River Paper Mills, at Vancouver, Washington, is secretary-treasurer. The Howe Sound plant was also formerly known as the Western Canada Pulp and Paper Company.

The purchase figure as shown in the records is $250,000.

Mr. T. Iverson, associated with Canadian paper interests in Quebec formerly, is now superintendent at Vancouver Kraft Mills, Ltd.

The capacity of the plant is 30 tons of sulphate per day. Part of the pulp will be sold and part will be used in the other Leadbetter mills. The old equipment is being used for the present but a survey of conditions is being made and new equipment will probably be added later.

Let's Build for Perpetuity

(Continued from Page 34)

of no further value to us. The spectacle of an almost desert state trying to stage a come-back to its old-time forestal greatness, is an act worthy of our deepest admiration and it should be a lesson to us as we seek to build up in the West an industry such as this, the success of which lies directly at the door of perpetuated forests.

We cannot lose sight of the fact that nothing of an enduring nature can be accomplished save by the co-operation of everyone. There must be leaders they must give of their time for the general good; it is the very unselfishness of the effort that gives it solidarity and strength and permanence.

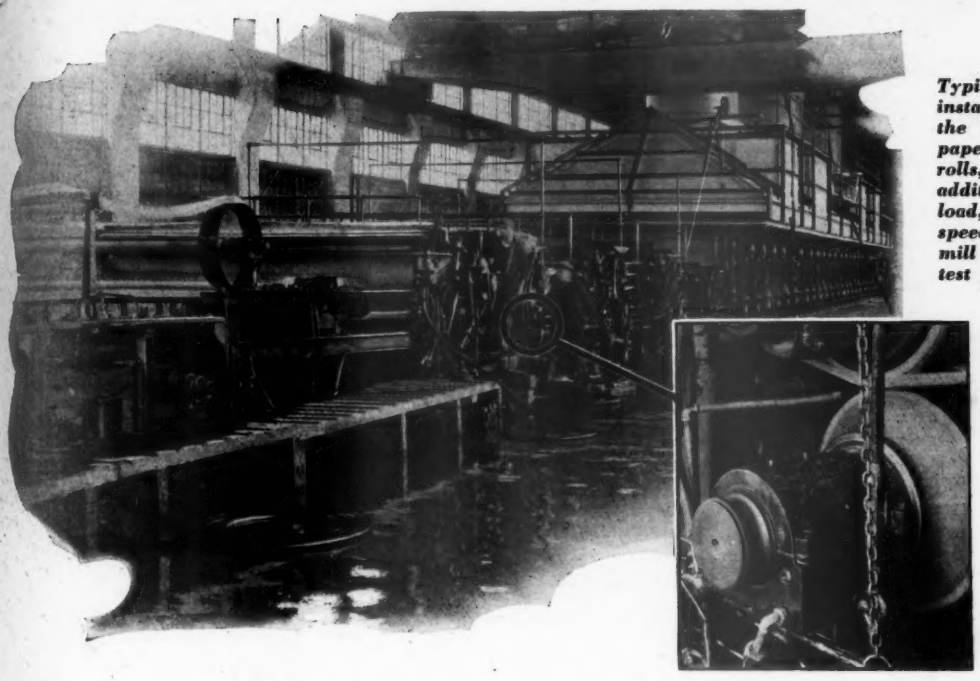
The Forest Service

The Pacific West stands in a most fortunate position as regards leadership—the Forest Service, an outstanding and notable instance where a federal service is all the name implies. The timbered areas of the Pacific West states are as efficiently managed as it is possible to manage the most intricate business enterprise. The personnel from the chief to the cook of the forest patrol are as fine a body of men as it is possible to gather together in one great, common cause. The nearness to nature probably adds to their sincerity and loyalty, but aside from that they are men of the highest caliber. These men of the Forest Service, having to do with the bulk of the West's great stands of pulp timber in the National Forests, are fit to take the leadership in the perpetuation of the pulp timbreland upon which the pulp and paper industry permanently must be builded. A program for perpetuating the industry would not be complete without calling in these expert foresters for counsel and advice, before any forestry measures are placed before Congress or the people for enactment.

Pollution Problems

Pollution of streams and tidal washes must be avoided in order to preserve harmony with state and national laws affecting them, particularly with respect to the Bureau of Fisheries. The pulp and paper industry can avoid any conflict with these protective bodies if early consideration is given to the problems before they arrive. Other industries having a deleterious waste have met and overcome official and sanitary objections similiar to those of the pulp and paper making business and there is no occasion for this latter industry to commit the same errors. It is an unwise move to disregard state and national proprieties in the effort at establishing a permanent industry and be continually in the courts on the matter.

A permanent commission of pulp and paper manufacturers with the active assistance of Forest Service men is an ideal nucleus around which to build and make permenent; that is, an advisory, rather than an aggressive commission, preventive and pacific, although with authority enough to carry out to fruition any policy that advantageously affects the whole industry and harms none.



Typical press bearing installation in one of the country's largest paper mills. Heated rolls, great pressure in addition to normal load, water and high speeds make paper mill service a severe test for any bearing.

What wouldn't this bearing do in your mill?

A BEARING which uses pints of oil instead of gallons. A bearing which runs cool in the most exacting bearing points. A bearing which eliminates oil leakage and the resultant damage and fire hazard—one which radically cuts power losses from friction and makes shut-downs for bearing service and replacements practically unknown. These are but a few outstanding advantages of the Jones-Willamette Bearing.

For several years this remarkable development in bearings has been in actual service in some of the country's principal paper mills. Users have grown more and more enthusiastic as continuous actual use has conclusively proved its economy.

The Jones-Willamette Bearing is available to the paper industry in all standard types and sizes, as well as in models to fit special requirements. Write for full particulars.

Is This of Value to You?

WILLAMETTE SULPHITE DIGESTERS ARE SO PERFECTLY FABRICATED AND ERECTED, that the hydrostatic test is made to the satisfaction of the insurance inspectors in a few minutes!

WILLAMETTE

PULP AND PAPER MILL EQUIPMENT

WILLAMETTE IRON AND STEEL WORKS, PORTLAND, OREGON, U.S.A.

Timber Deal May Mean Pulp Mill

Linking of the name of Schafer Brothers Logging Company at Montesano, Washington, with that of the Pacific States Pulp and Paper Company which has exercised an option on a site supposedly for the erection of a pulp mill at Aberdeen, Washington, seems one step nearer with the news that the logging company has increased its timber holdings in the Gray's Harbor district.

The deal increasing the holdings was completed recently when Schafer Brothers acquired all of the logging and timber holdings of the National Lumber & Manufacturing Company at Hoquiam, located in the vicinity of Cedarville in the eastern part of the county.

The deal is said to be one of the largest in the recent history of Grays Harbor and to involve between 500,000,000 and 1,000,000,000 feet of timber. While the consideration was not stated, it is said to have amounted to more than $1,000,000. This is the second large deal that the Schafer Brothers have entered into within the past two years, the other having been the purchase of the holdings of the Wynooche Timber Company in July, 1925, for a consideration said to be approximately $4,000,000. In addition to the standing timber involved the deal includes twenty-five miles of railway, locomotives, rolling stock, donkey engines and complete logging and camp equipment.

Schafer Brothers Logging Company, of which Peter Schafer is president, Albert Schafer, vice president and Hubert Schafer, secretary-treasurer, is the parent company owning the Schafer Brothers Timber Company, operating the properties formerly owned by the Wynooche Timber Company; the Schafer Brothers Lumber & Door Company operating two saw mills and a large re-manufacturing plant in Montesano and another saw mill in Aberdeen, also the Schafer Brothers Shingle Company, operating a shingle mill at Montesano.

Zellerbach to Survey Alaska Timber

Organization of survey crews is to be undertaken soon by the Zellerbach paper interests of San Francisco for the thorough examination of the pulp and paper possibilities in the Tongass forest of Southeastern Alaska, where the California concern recently was given a government award of 5,000,000,000 board feet of pulp timber.

Permits for the development of the water power in the Tonogass section were received recently at the Zellerbach office from the Federal Water Power Commission. These permits were necessary before the company could proceed with the investigation and development of the timber award from the United States Forest Service.

M. R. Higgins, chairman of the board of directors of the Zellerbach Corporation, declared recently that the company would spend probably two years in an exhaustive survey of the territory before any work is done on the actual construction of the mill and the town the company is planning on.

Anderson Chosen Fidalgo President

Ossian Anderson was reelected president of the Fidalgo Pulp Manufacturing Company at Anacortes, Washington, and of the San Juan Pulp Company, Bellingham, Washington, at a recent meeting at which officers were elected for the coming year.

Other officers are William Morrison, vice president, and O. M. Green, secretary-treasurer. P. F. Knight, P. Schmidt and U. M. Dickey are the directors.

Machinery Arrives for Sidney Pulp Unit

Machinery for the new pulp unit being built by the Sidney Roofing and Paper Company at Victoria, B. C., arrived in May before the building was completed. Workmen are now on the job pushing the construction of the building.

The new unit will make ten tons of ground wood pulp a day, according to Manager R. W. Mayhew. One four-pocket grinder is being installed now, but provision is made for the installation of grinders to give forty tons daily capacity at a later date. Spruce and hemlock mill waste will be the principal material used. Other equipment will include a wet machine and screen. The pulp will be shipped as lap. Operations will probably begin in July.

The Sidney Roofing and Paper Company Ltd. now makes from twenty to twenty-five tons daily of roofing and board. Old rags and carpets are used for making felts and waste paper and some sulphite pulp is used for board.

Union Company May Build on Coast

The Union Bag & Paper Company is considering the erection of a mill on the Pacific Coast according to a statement appearing in the May 30, 1927, issue of Barron's, Eastern financial publication. It is said that the mill will have a capacity of 100 tons a day and would use the Ramar process for manufacture of paper and bags. The location, as given in this announcement is not indicated other than that the mill will be located "where wood is cheap and abundant".

"At present," says Barron's, "Union Bag & Paper is utilizing the Ramar process on only a small portion of its production, but it plans to expand this as rapidly as possible. It has installed one digester with capacity for making ten tons of pulp a day at one of its mills, that at Kaukauna, Wisconsin. Last year the company sold a little over 75,000 tons of paper, and it is figured that eventually the Ramar process can be applied to fully ninety per cent of its production. It will take considerable time, however, to change over machinery."

Being President Is Strenuous

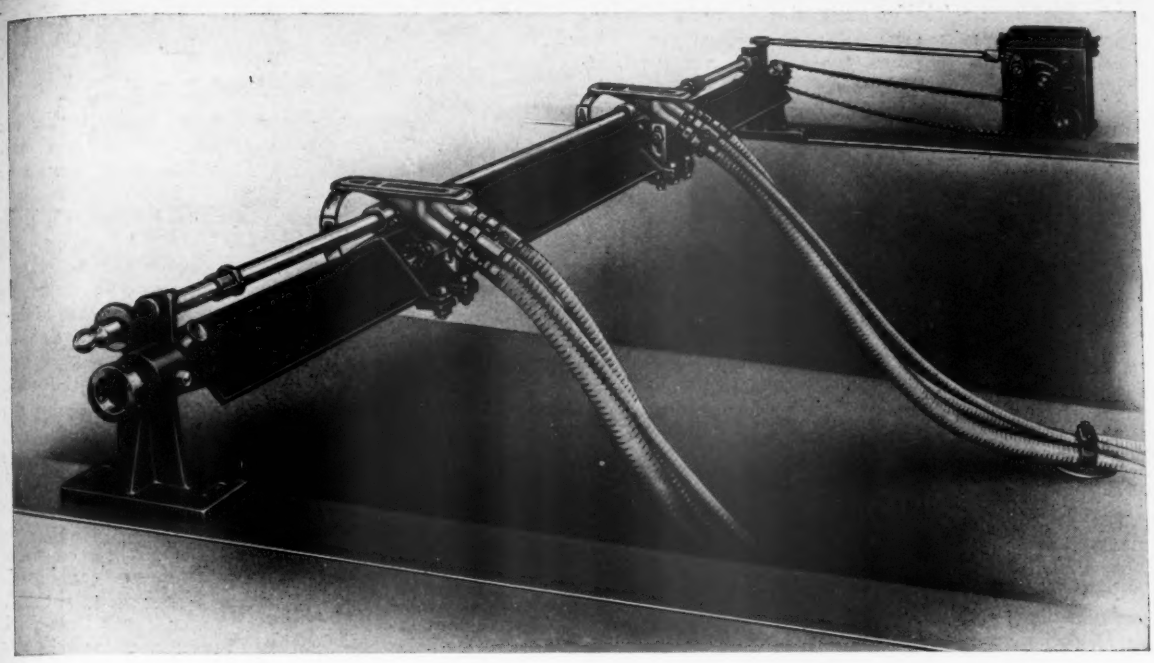
Merely sitting at a mahogany desk with secretaries coming at a touch on a push button isn't all there is to being president and managing director of a pulp and paper company as Lawrence Killam of the British Columbia Pulp and Paper Company, Ltd., will tell you.

Mr. Killam left on May 27 for a quick trip to the company's most remote plant, the one at Port Alice, on the west side of Vancouver Island. One can reach Port Alice by taking a regular, but not too frequent, steamer that goes up the west coast of the island. But time can be saved by going up the inside passage to a point across the island from the mill. There one disembarks, takes an auto as far as the road will permit, and then, when the auto quits, depend on one's own good legs to get him across to the end of the arm that runs far into the island from the west coast. A launch can then be had to get the traveler down to the mill.

"Mud?" remarks President Killam. "You should have seen my clothes after the last trip."

Powell Representative Visits Vancouver

W. H. Fritch, Seattle representative of the Powell River Pulp and Paper Company paid his first official visit to Vancouver, B. C., recently to meet A. E. McMaster, general manager, and other officials of the company.



A Pacific Coast Paper Maker says:

BIRD MACHINERY

Of 359 Vickery Felt Conditioners sold in the United States, 240 represent *repeat orders.*

". . . We have two Vickery Felt Conditioners working on our press felts and we are absolutely frank to admit that they are a great saving to us in the way of maintaining clean felts, which in turn permits maximum pressure of the upper press roll thereby removing maximum amount of water from sheet during the entire life of the felt. This in itself is of tremendous importance in maintaining maximum production with a minimum steam per ton drying.

"The felt life we find is fully as long when used in connection with Vickery Felt Conditioner as before the Conditioner was used.

"We, indeed, would not wish to get along without this equipment after our experience."

Take one Vickery Felt Conditioner and try it out. See for yourself how much it will increase production and improve quality in your mill.

BIRD MACHINE COMPANY
South Walpole. Massachusetts

1023

The Vickery Felt Conditioner

Fred J. Rooney Heads Superintendents

A unanimous ballot for the entire slate picked by the nominating committee was cast at the annual convention of the American Pulp and Paper Mill Superintendents' Association held at Richmond, Virginia, on May 26, 27, 28. The 1927 officers are:

Fred J. Rooney, president.
Benjamin Larrabee, first vice-president.
James Garfield Ramsey, second vice-president.
George H. Pountain, third vice-president.
Joseph H. Slater, fourth vice-president.
Carl Magnus, fifth vice-president.
Robert L. Eminger, secretary.
Peter J. Massey, treasurer.

Resolutions passed at the convention approved:

(1) The appointment of a committee of three to make a survey of and formulate a more definite and workable program of Vocational Education.

(2) Appointment of a committee of one to investigate the subject of purification of mill effluents and to cooperate with existing agencies now investigating the problem.

(3) Appointment of a chairman to formulate a program of activity among the Mechanical and Chemical Superintendents so that the committee would act as a clearing house for information concerning the practical problems involved in the manufacture of pulp.

(4) Appointment of a committee on membership to stimulate interest in the Mechanical and Chemical pulp division.

(5) Endorsement of the movement for uniform and model forestry legislation throughout the United States along the lines which Michigan has followed.

(6) Appointment of a "Practical Problems Committee" as a clearing house within the association for the exchange of practical information concerning the mutual problems in pulp and paper manufacture and mill efficiency.

The attendance register showed 459 present, including members, non-members, men from allied industries, and ladies.

The three-day program was replete with entertainment and was a thoroughly enjoyable outing for all.

Puts Research on Sound Basis

A bill to insure adequate supplies of timber and other forest products for the people of the United States, to promote the full use for timber growing and other purposes of forest lands in the United States, and to secure correlation and the most economical conduct of forest research in the Department of Agriculture, through research in reforestation, timber growing, protection, utilization, forest economics, and related subjects, was proposed in the last session of the national Congress and has the approval of forestry officials and others interested. The bill is known as H. R. 17406.

Research work has been on an unstable footing in the past, according to forestry officials. This type of work, it is pointed out, is of little value if it is discarded without notice as can easily happen under the existing system. The proposed bill puts the research on a firmer footing and gives the work a more equitable chance to prove its value.

Experiment stations are provided for in the bill, two on the Pacific Coast being named, one for California and the adjoining states, and one for Washington, Oregon and adjoining states and Alaska.

Annual appropriations are stipulated in the bill to cover investigations and experimental work in decay, insects, wild life, weather conditions, forest management, wood utilization, timber requirements, and reforestation.

Pulp and Paper Leads In Canada

Pulp and paper lead all other industries in Canada in the calendar year 1926 according to a report prepared and just released by the Canadian bureau of statistics.

Of the total gross output of $2,948,545,315, pulp and paper accounted for $193,092,937. Flour and grist products ran a good second with $187,944,731.

The gross figure represents an increase of about $253,000,000 over the preceding year, and is also higher than any other year with the possible exception of 1920, when prices were much inflated.

A more accurate impression of the growth of Canada's industry is indicated in the figures showing the value added by the manufacturer. In 1926 this amounted to $1,360,879,907, more than $104,000,000 greater than the preceding year.

Zellerbach Making New Issue

Thirty thousand shares of convertible preferred stock are to be offered by Zellerbach Corporation through Blythe, Witter & Company to cover expenditures recently made by the corporation or proposed in the near future.

During the past year, according to the prospectus issued by Blythe, Witter & Company, nearly $4,000,000 has been expended in additions and improvements to plant and equipment, and it is contemplated that about $2,500,000 will be expended for a kraft mill somewhere in the Pacific Northwest in the near future.

Net assets of the corporation, after giving effect to receipt of proceeds of the present financing, based upon balance sheet statement prepared by independent auditors, as of April 30, 1926, were over $290 per share of 90,000 shares of Preferred Stock to be presently outstanding. Eearnings for the year ending April 30, 1926, are given as $2,438,158.

The corporation, directly or indirectly, owns all capital stock, except directors' qualifying shares and $13,850 (par value) Northwestern Power and Light Company stock, of the following corporations: Zellerbach Paper Company, National Paper Products Company, The Sanitary Products Corporation, American Investment & Realty Company, Olympic Paper and Power Company, Washington Pulp and Paper Corporation, Northwestern Power & Light Company and Graham Island Timber Company, Ltd.

Canadian Newsprint Company Organized

For the purpose of broadening overseas markets for Canadian newsprint, a new sales organization known as the Canadian Newsprint Company, Ltd., has been formed with head office in Montreal. The company is capitalized at $5,000,000 in preferred stock and 10,000 shares of no par common stock. It is acquiring G. H. Mead Company, Canadian Export Paper Company and St. Maurice Sales Company. It will control sale of a daily output of newsprint exceeding 5000 tons, manufactured by six Canadian companies.

The new sales company expects to achieve more economical distribution of newsprint in foreign markets, eliminating duplication of selling effort, saving in freight by shipping from most convenient mills and giving better deliveries and service to buyers.

SUMNER
Improved Digester Valve

For Use In Soda Process Pulp Mills

Does not leak and spoil the cooking process. Now adopted as standard at the Everett Pulp & Paper Co., Everett, Wn.

WE ALSO BUILD

Chippers
Shaker Screens
Rechippers
Single Press Wet Machines
Double Press Wet Machines
Vats and Screen or Mould-Rolls
Pulp Grinders
Stock Valves
Reduction Drives
Transmission Machinery, Etc.

Let Us Figure on Your Requirements

SUMNER IRON WORKS

EVERETT, WASH.

This Overproduction

(Continued from page 26)

tons of sulphite if necessary, and the Western slope of the Olympic peninsula can, on a sustained yield basis, perpetually produce 400,000 tons annually. Whether the market can absorb this output remains to be investigated.

The total consumption of chemical pulps increased from 2,000,000 tons in 1914 to 3,450,000 tons in 1925. During the same years the imports increased from 458,000 tons to 1,190,000 tons. The present tendency of the consumption is to reach 6,000,000 tons in 1935, but, if discounted owing to the extreme growth during 1925 and 1926, a conservative figure of 5,000,000 tons in 1935 is reached. This leads to an import of 1,600,000 tons in 1930. Owing to the undeniable fact that the present Eastern pulpwood resources do not permit an increase in the cut, the 1930 figure is by no means excessive.

U. S. Imports Are Heavy

The domestic production of pulpwood remains almost constant, around 4,500,000 cords, but the imports of pulpwood increased from 783,000 cords in 1916 to 1,540,000 cords in 1925. The shortage in the spruce-silver fir-hemlock group, forming the raw material for sulphite pulp, has increased from forty per cent in 1914 to fifty-three per cent in 1922 and sixty-two per cent in 1925. There is admittedly no alternative left except to continue the imports or to find new sources of pulpwood.

Disregarding the imports of pulpwood, here mentioned only to prove the existing shortage, and taking into account only the imports of pulp, it was found that 1,600,000 tons will in all probability be imported in 1930. Of this amount about fifty-three per cent will come from Canada and the balance from Europe if the 1925 proportions are assumed to remain constant, and the Northwestern pulp must compete with these imports.

Freight Advantages

The Canadian competition cannot be entirely eliminated because of the freight advantages enjoyed by a number of the Canadian mills that are close to the Eastern United States paper mills. However, the Northwest can compete on quality and price with at least fifty per cent of the Canadian imports, or 425,000 tons in 1930.

The European competition is much easier to eliminate as the pulp is laid down in New York on a small margin, said not to exceed $3.00 as an average. There is no reason why eighty per cent of the European imports could not be eliminated, equal to 600,000 tons in 1930. The total tonnage which the Northwest can supply in 1930 is hence 1,025,000 tons, or, in round numbers, 1,000,000 tons of sulphite and sulphate pulp.

Sulphite Looks Best

Due to conditions previously stated the major production must be in sulphite pulp. About twenty per cent of the total output of the Northwest can be sulphate pulp.

Quoting U. S. Department of Agriculture Bulletin 1241, page 51: (How the United States can meet its present and future pulp wood requirements)

"The total stand of timber in Oregon is larger than in Washington, but the percentage of pulpwood species is lower; and except for the silver fir stands on the higher slopes, the pulp stands are more scattered in mixtures with other timber. The amount of timber in Oregon now inaccessible is relatively higher than in Washington."

The production of sulphite pulp for sale as pulp in Washington in 1928, including mills operating, expanding, and under construction will be slightly under 70,000 tons a year, and mills planned or announced so far with reasonable assurance of production in 1929 will barely double the output. The state capable of the greatest production of chemical pulp for the Eastern market will therefore produce less than 150,000 tons for a market able to absorb 1,000,000 tons, and it is doubtful if Oregon will reach 100,000 tons. The difference between the marketable and the indicated output strikingly proves the fallacy of all claims of overproduction provided reference is made to sulphate and sulphite pulp, but the claim is correct when covering paper, news, mechanical or soda pulp.

What Profits?

Promotion of sulphite mills show an estimated net profit of $18 to $20 per ton, but conservative figures are considerably less. However, profits can by no means be guaranteed, especially not by overcapitalized promotions without assurance of the best technical talent obtainable in design and operation of the plant, and compelled to rely on pulpwood purchased in the open market.

The profit is possible only if pulpmill, sawmill and logger cooperate to the fullest extent, preferably as a single coordinated wood industry. The present tendency is to consider pulpmills as independent and detached enterprises, but it is no more possible to divorce pulpmills and sawmills than to separate sawmills and planing mills.

Nor will the above net profit be obtained for any grade of pulp. Poor, indifferent or high grade pulp can be produced with essentially the same raw material and equipment, but with a considerable difference in management and technical staff.

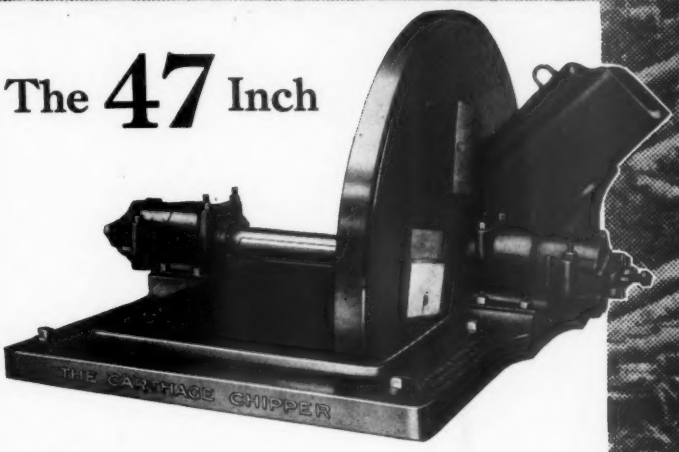
Engineers Tour Port Angeles

Evidencing the absorbing interest which the growth of the pulp and paper industry in the Northwest has created in all branches of business, the Western Washington Section of the American Society of Mechanical Engineers decided this year to hold their annual meeting and excursion at Port Angeles, Washington, in order to have an opportunity to familiarize themselves at first hand with the engineering methods of the pulp and paper plants.

The engineers had an opportunity to go over the splendid plant of the Washington Pulp and Paper Corporation at Port Angeles and also to visit and inspect the power development of the Northwestern Power and Light Company, in Glines Canyon, from which the Washington plant draws its operating power.

The party drove to Port Angeles in automobiles on Saturday morning, May 21st, and were met by Norman B. Gibbs, manager of the Washington and Northwestern companies, and by Felix Rogers, manager of the Charles Nelson Lumber Company. They were entertained at lunch by Mr. Rogers and later shown through the pulp and paper plant by Mr. Gibbs, proceeding from there to Glines Canyon where they inspected both the upper and lower power plants where a total of 43,000 horsepower has been developed for the operation of the mill. The inspection ended with a banquet served in the mess room at the upper camp of the Power Company at which Mr. Gibbs acted as host.

The 47 Inch



Carthage Chipper

Waste Wood to Pulp At Least Expense

PUT Carthage 47-inch Chippers to work on your waste wood. They turn out a large amount of clean, uniform chips, with a minimum amount of slivers and sawdust. Power and maintenance costs are very low.

Carthage Chippers are furnished with either SKF roller bearings or standard ring oiling bearings; patented feed spouts which do not clog; adjustable bed knife for long wear and special end thrust safety plates.

Reduce your waste wood conversion costs with Carthage Chippers. They soon pay for themselves.

Ask for the fully descriptive Bulletin.

The following Pacific Northwest Mills are among those now using Carthage Chippers:

Columbia River Paper Mills, Vancouver, Wash.
Crown Willamette Paper Co., Portland, Ore.
Everett Pulp & Paper Co., Everett, Wash.
Fidalgo Pulp Mfg. Co., Anacortes, Wash.
Inland Empire Paper Co., Millwood, Wash.
Powell River Paper Co., Powell River, B. C.
Rainier Pulp & Paper Co., Shelton, Wash.
Washington Pulp & Paper Co., Port Angeles, Wash.
Western Canada Pulp & Paper Co., Port Mellon, B. C.
Pacific Mills, Ltd., Vancouver, B. C.

Carthage Machine Company

Manufacturers of Pulp and Paper Mill Machinery

936

CARTHAGE, NEW YORK

BELLEVILLE, ONT., Canada

Underground Water Resources

(Continued from page 22)

water. The water occurs in gravel strata. A well now being driven for the city of Tacoma on the tide flats has pierced several strata. Port Angeles has thick beds of underground sand. Within a ten-mile radius of Gray's Harbor it is safe to say that 100,000,000 gallons a day can be developed at a depth of about 300 feet. In the Columbia river basin the water varies, but in the vicinity of Portland there is particularly good volume. The Columbia river mills at Vancouver, Washington, have been using underground water for years from wells only fifty feet deep.

A well has just been "brought in" at Tumwater, Washington, to supply the Tumwater Paper Mills. This well is pumping more than 1500 gallons a minute, some 2,000,000 gallons a day or 600,000 gallons in excess of the mill's requirements when it begins operation.

The Tumwater well is 105 feet deep. It has a 24-inch casing for forty-five feet, and an 18-inch casing for the remaining distance. The cost of developing this source of water has been approximately $7,000. The water will cost the mill about one-half of one cent per 100 cubic feet under normal conditions.

Proper Construction Important

The Tumwater well emphasizes the need of proper construction in drilling a well. There have been a number of other wells drilled in this same locality, but without success. No particular knowledge is required to drill a hole in the ground, but to develop a real flow of water requires an experience gained from long contact with the work and from a proper regard for some fundamental things.

Volume flow depends on plenty of surface exposed to the water-bearing gravel at the bottom of the well. Right there is the cause of so many well failures. For some reason the average driller can think only of a six or possibly a ten-inch hole. Of course no volume results, the man who pays the bill is disappointed, and one more failure is pointed at to show that development of underground water is not practical.

Drilling is really the smallest item in the total cost of the well. Quite often in my score of years of experience I have found that developing the well costs more than the drilling. By this I mean the perforating of the casing in the gravel stratum and building up a good gravel screen behind it. For example, at the Tumwater well three carloads of sand were taken out and one carload of a more suitable gravel was put in.

The Double Casing Method

The hole has to be plenty large enough to allow for this development at the bottom. In our own drilling we make a practice of putting down one casing within the other and build up a gravel screen between the two. Of course this type of construction costs more than the mere drilling of a six-inch hole, but when volume is wanted it seems most reasonable to measure cost in terms of results produced.

Wells produce according to the draining area developed. There is some element of uncertainty in well drilling, but long experience and study of conditions assure at least a good measure of success. The subterranean water follows channels in much the same fashion as does surface water. There are underground valleys. The topography of the country is an important indicator of underground water.

This little known resource has scarcely been tapped in the state of Washington. There is still much to learn about the courses of these underground streams. We could learn more and develop some valuable data on this natural resource if well drillers were licensed and required to turn in a log of each well drilled. In time a valuable picture of the subterranean structure of the country would be available.

It is interesting to note that eighty-five per cent of the water used in European municipalities is subterranean in character, while in the United States the figure is thirty-five per cent. California, which is not noted for heavy rainfall, is irrigating, with underground water, according to the latest available figures from the Department of Agriculture, 865,000 acres of land. Washington irrigates 550,000 acres, but only 20,000 acres are getting well water.

Mud Scows and Slip Joints

In our own operations we are using the mud scow method with California double slip joint casing commonly known as "stove pipe" casing. The casing is preceded by a twenty-foot starter joint with a hardened tool steel shoe capable of cutting right through a boulder. The casing joints are slipped together with four hydraulic jacks having a capacity of 600 tons.

Deep well turbine pumps are used to pump the water when the well is developed. A well has just been completed for the Fleischmann Yeast Company's plant at Sumner, Washington, from which 2,500 gallons a minute or 3,500,000 gallons in 24 hours can be pumped.

Water Is Remarkably Pure

Underground water on the Pacific Coast is remarkably pure, and, in properly developed wells, the flow through the gravel has taken out all silt and sediment that might be injurious in the manufacture of pulp and paper. A well from which 2,000,000 gallons per day are to be used should be developed to produce 3,000,000 gallons in order to eliminate any possible chance of silt or sediment being carried on in normal use. The chief engineer at the yeast plant at Sumner states that, despite the fact his boilers are operated at more than normal capacities for several hours at a time on frequent occasions, it has been necessary to turbine the tubes but three times in fifteen years and less than a dozen tubes have been replaced.

The underground water is here on the Pacific Coast, in plentiful volume and, of highest quality. The cost of developing the underground supply will average about one-fourth that of developing surface waters, but the success of the development is dependent upon the use of proper methods in developing the supply.

Portland Chamber Making Survey

George H. Wisting, manager of the industries department of the Portland Chamber of Commerce, has just returned from a trip East made for the purpose of acquainting eastern industrialists with the advantages offered by Portland for locating industries there. Mr. Wisting conferred with a large number of pulp and paper manufacturers and also manufacturers of equipment used by the mills. The trip was in connection with an industrial survey being made by the Portland chamber.

A. E. McMaster Returns from East

Mr. A. E. McMaster, general manager of the Powell River Company, Ltd., returned to the company's offices at Vancouver, B. C., on May 28 after an absence of two weeks. Mr. McMaster was as far east as Montreal on general business of the company. He returned west via Seattle, stopping off for a short time to confer with Mr. W. H. Fritch, representative of the Powell River interests in Seattle.

HANS LAGERLOEF
President

ORVAR HYLIN
Vice-President

MAURICE LONDON
Secretary

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The Texrope Drive

(Continued from page 22)

to slightly increase the strain on them. The belts are made of a composition of cotton cord and rubber, very similar to the modern cord tire. They are, of course, unaffected by dampness, some of the drives operating with water running over them constantly.

The first use of Texrope drive in the pulp and paper industry was made late in 1925. One of the large manufacturers of asbestos and felt roofing, insulation, etc., installed Texrope drives on two beaters, the drives rating about 150 h.p. each. The engineer of a large

This 65 h.p. motor, delivering power to a constant speed shaft line in a paper mill, reduces the speed from 710 to 156 r.p.m. and operates on 49-inch centers.

northern paper company at this time also decided to try out the Texrope drive, and installed one or two small ones on pumps and fans.

The use of the Texrope drive in the industry has exactly paralleled the experience of these two companies. The roofing mill now has about twenty-five beater drives, and the northern paper company has over 100 drives in their several mills on almost every sort of application, from 1 to 150 h.p. each.

A manufacturer of high grade coated paper had a bad condition on calendar drives, and installed Texrope drives to correct it. They found that that were making smoother paper, and could reach a higher grade market for that reason. Also, they could run the stacks 60 per cent faster without breaking the sheet as often as formerly. The same mill installed a Texrope drive on a constant speed shaft, and noted an immediate saving of 11 h.p. on this drive alone.

The office building of one mill adjoined the finishing room, but noise of the gear drives on the stacks was transmitted through the walls and was highly objectionable in the offices. Texrope drives, which are silent, corrected the condition.

New Pacific Coast mills have largely adopted Texrope drives for initial equipment throughout. One of the large new kraft mills, the owners of which had had experience with Texrope drives in the middle west, have ordered forty drives, including all beaters, pumps, fans, etc., totalling about 1200 h.p.

John Miller Sees the Coast

John R. Miller, vice-president and general manager of the West Virginia Pulp and Paper Company, returned to his home in New York City in May after a business and pleasure trip to San Francisco.

Emery Becomes Spaulding Director

E. Fred Emery of Portland, a stockholder in the Spaulding Pulp and Paper Company, was elected a director in the company in May. Mr. Emery is a son-in-law of the late Henry Pittock, a prominent Portland man.

Jay Buckley, recently from Illinois, has purchased a substantial block of stock in the Spaulding Company and expects to locate in Newberg.

More than 100 workmen are on the construction work at Newberg now, according to President Charles K. Spaulding. "We expect the plant to be completed and ready for operation some time in August," he said recently. "The pulp will be shipped East at first. When the pulp unit is completed we expect to go ahead with the paper unit."

Zellerbach Company Publishes Success Booklet

A booklet has recently been published by the Zellerbach Paper Company, entitled "Cardinal Principles for a Successful Business." As stated on the title page, it is a "compendium of commercial policies a paper house should adopt and pursue in order to get the largest percentage of success out of the business." The primary purpose was to outline the policies which should be followed by the company's employees, and to that end, the book has been distributed among the officials and employees of the company and its subsidiaries.

The work was compiled from papers written by a number of Zellerbach men on various subjects from organization to sales and delivery. It discusses the relation of employee to the organization, advertising, contact with the customer, credit, rendering of service, selling principles, handling of stock, etc. In short, it takes up the business of the company from every angle, and gives each member of the staff a clear-cut idea of what the policy is, and what improvements should be strived for. In spite of this, it is general enough in nature to be of value to anyone connected with the paper industry.

B. C. Company Named Defendant

On the application of Mr. H. Castillou, the Canadian Supreme Court made an order adding Whalen Pulp & Paper Mills Ltd. co-defendant to an action by James Whalen, George F. Whalen and Verna Dangerfield, to set aside the sale on October 30, 1925, of the assets of Whalen Pulp & Paper Company for $4,000,000. The company, which has been added co-defendant, was recently on plaintiffs' application, restored to provincial register, from which it had been removed. The Whalen properties are now the British Columbia Pulp and Paper Company, Ltd.

Alaskan Forester Visits States

B. F. Hintzelman, assistant district forester, U. S. Forest Service, in charge of the National forests in Alaska, passed through Seattle on his way to San Francisco on May 14. Mr. Hintzelman went to San Francisco to complete arrangements for the sale of pulp timber awarded to George T. Cameron and allied interests.

Charles Lenning & Co. at New Address

Charles Lenning & Company has announced the removal of the Philadelphia office to 222 West Washington Square, Philadelphia.

Analysis of Business

THE wide awake executive guides his business through all conditions by Analysis.

Each month there should be placed on his desk a complete and comprehensive report covering analysis of facts and figures relating to materials, manufacturing, costs, markets, sales and organization.

With this information he develops the business along safe and sound lines in its new fields of endeavor.

Successful business is the result of correct and comprehensive Analysis.

GEORGE V. WHITTLE & COMPANY

Certified Public Accountants
Tax Consultants

Executive Offices: 1821-24 L. C. Smith Building, Seattle
Vancouver, B. C., Bellingham, Mt. Vernon,
Washington, D. C.

National Paper Products Company

(Continued from page 19)

About 250 workers are employed at present and it is expected that this number will reach 800 when development is complete. Taken altogether it is a valuable and notable addition to the paper industry of the Pacific Coast.

Mr. R. C. McCrystal is general superintendent of the South Gate plant. He has had a thorough schooling in this line of work and is reckoned among the most capable men connected with the paper industry of the Pacific Coast as well as one of the most able executives. He is a native of Chicago and at the age of eighteen became a clerk in the estimating department of the Seston Manufacturing Corporation of that city, one of the largest concerns of the country engaged in the manufacture of products from cardboard and paper.

During the nine years in which he was connected with this concern Mr. McCrystal worked his way upward to an important executive position. Six years ago he was called to the Pacific Coast to take charge of the Los Angeles branch of the National Paper Products Company. Under his able management the business has prospered to an extent which has made this further expansion necessary.

Canadian Newsprint Output Increases

According to the News Print Service Bureau's monthly bulletin No. 112, production in Canada April, 1927, amounted to 166,460 tons and shipments to 168,511 tons. Production in the United States was 130,236 tons and shipments 129,010 tons, making a total United States and Canadian newsprint production of 296,696 tons and shipments of 297,521 tons. During April, 15,179 tons of newsprint were made in Newfoundland and 1,247 tons in Mexico, so that the total North American production for the month amounted to 313,122 tons.

The Canadian mills produced 73,081 tons more in the first four months of 1927 than in 1926, which was an increase of 13 per cent. The United States output was 39,948 tons or seven per cent less than for the first four months of 1926, that in Newfoundland 10,985 tons or 20 per cent more, and in Mexico 663 tons or 16 per cent more, making a total North American increase of 44,781 tons or four per cent.

During April the Canadian mills operated at 85.4 per cent of rated cpaacity and the United States mills at 87.2 per cent. Stocks of newsprint paper at Canadian mills totalled 26,389 tons at the end of April and at United States mills 24,105 tons, making a combined total of 50,494 tons which was equivalent to 3.8 days' average production.

Rayon Production Strides Forward

Although artificial silk was thought of more than 200 years ago, only within the past two decades has any progress whatever been made in its development and manufacture. The rayon industry, therefore, is comparatively new but already gives promise of remarkable growth and expansion. Producers and manufacturers are thoroughly awake to the possibilities of rayon and are making every attempt both to improve its quality and facilitate its manufacture. The accompanying figures are given by the U. S. Department of Commerce.

There are no official data for 1926 on the world production of rayon but private estimates place the figure at 219,400,000 pounds—a very marked increase over the 187,500,000 produced in the previous year. The United States is by far the largest producer, followed by Italy, Germany, and the United Kingdom, in the order named. Up to 1925 the United Kingdom claimed second place, but last year, owing to the greatly increased production in Italy and also to the coal strike and the resulting depression in the textile trades of England, the British producers dropped to fourth place.

The following figures, compiled by British trade sources, show the production of the principal countries during the last three years:

World Production of Rayon Yarns

Country	1924 Pounds	1925 Pounds	1926 Pounds
United States	38,750,000	51,000,000	63,400,000
United Kingdom	23,947,000	28,000,000	25,500,000
Germany	23,672,000	26,000,000	26,000,000
Italy	18,480,000	28,000,000	35,000,000
France	12,333,000	15,500,000	17,500,000
Belgium	8,874,000	13,000,000	13,000,000
Netherlands	3,366,000	9,000,000	14,500,000
Switzerland	4,004,000	6,000,000	8,000,000
Japan	1,200,000	2,000,000	6,500,000
Other	6,374,000	9,000,000	10,000,000
Total	141,000,000	187,500,000	219,400,000

Rayon Statistics for Principal Countries

The United States, the largest producer, is also the largest importer of rayon. Italy, on the other hand, exports more than half of its entire production, or 21,000,000 pounds, and Belgium 7,000,000 out of 13,000,000. Both of these countries import minor quantities. About 83 per cent of the production of the Netherlands is exported.

In the following table the trade and consumption of the principal rayon-producing countries during 1926 are compared with their production in that year:

Production, Exports, Imports, and Consumption of Rayon Yarns in 1926

Country	Production Pounds	Exports Pounds	Imports Pounds	Consumption Pounds
United States	63,400,000	400,000	10,125,000	73,125,000
United Kingdom	25,500,000	5,425,496	1,799,980	21,874,484
Germany	26,000,000	8,200,000	10,100,000	27,900,000
France	17,500,000	2,396,680	2,167,660	17,270,980
Belgium	13,000,000	7,000,000	900,000	6,900,000
Netherlands	14,500,000	12,000,000		2,500,000
Italy	35,000,000	21,540,371	1,684,000	15,143,629

Swedish Pulp Producers Disturbed

Swedish pulp producers have expressed dissatisfaction over the action of the Finnish interests in accepting lower prices on the American market for future delivery, reports the U. S. Department of Commerce Commercial Attache in Stockholm.

The paper market remains quiet with a very weak demand prevailing.

The labor situation has cleared with the agreement reached by the arbitration commission which terminated the threatened lockout.

Wood pulp exports in April were 74,917 metric tons as against 21,954 in March. Paper exports for April and March, respectively, were 29,302 and 33,279. Values of the wood pulp exports for April and March, respectively, were $2,306,000 and $916,000. For paper these figures were $287,000 for April and $382,000 for March.

B. C. Forest Chief Attends Conference

P. Z. Caverhill, chief of the British Columbia Forest Service, was in Vancouver May 27 to attend a conference being held in connection with the "Save the Forest Week" in Canada. Last year was an exceptionally bad year for fires, Mr. Caverhill states, but this year so far has been unusually light due to the great amount of snow which fell last winter. The British Columbia forest fire fighting forces have been organized and men are now in the field ready for emergencies.

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Longview Plant Machinery Arrives

Construction work on the $2,500,000 Longview Fibre Company's plant, at Longview, Washington, is already half completed and operation will probably start in October. Day and night crews, totaling 225 men, are now employed with some work also being done on Sundays to speed up construction. The operation will be larger than was at first planned, and the cost may total $3,000,000. Construction started in January.

The digester and diffuser tanks have been installed, causticizing tanks are being placed and 400 tons of paper mill machinery, the first of several shipments, were unloaded from the freighter Henry S. Grove at the public docks on May 28.

Association Makes Offer to Non-Reporting Mills

Arrangements have been made whereby the mills not now reporting to the association may exchange their monthly production and shipment figures for the total figures of the grades so reported, according to a statement by Paul S. Hanway, statistician of the American Paper and Pulp Association. The non-member mill should be equally as well informed concerning its grade or grades of paper as the member mill. In rendering such an exchange, the association will be fulfilling its obligation to its members by helping to stabilize the industry by means of more accurate information concerning production, etc., to members and others.

Grays Harbor Has Increased Tonnage

The Port of Gray's Harbor for the year 1926 showed an increase of thirty per cent over the previous year in the total cargo tonnage into and out of the port. The figures, as given out in the report of W. H. Peters, manager of the port, show a total of 2,656,954 tons of outbound cargo for 1926. The lumber cargoes totaled 1,416,296,493 feet board measure. Development of a pulp and paper industry at Gray's Harbor, a district popularly acclaimed as a future pulp and paper center, is expected to alter the make up of the tonnage figures in the coming years.

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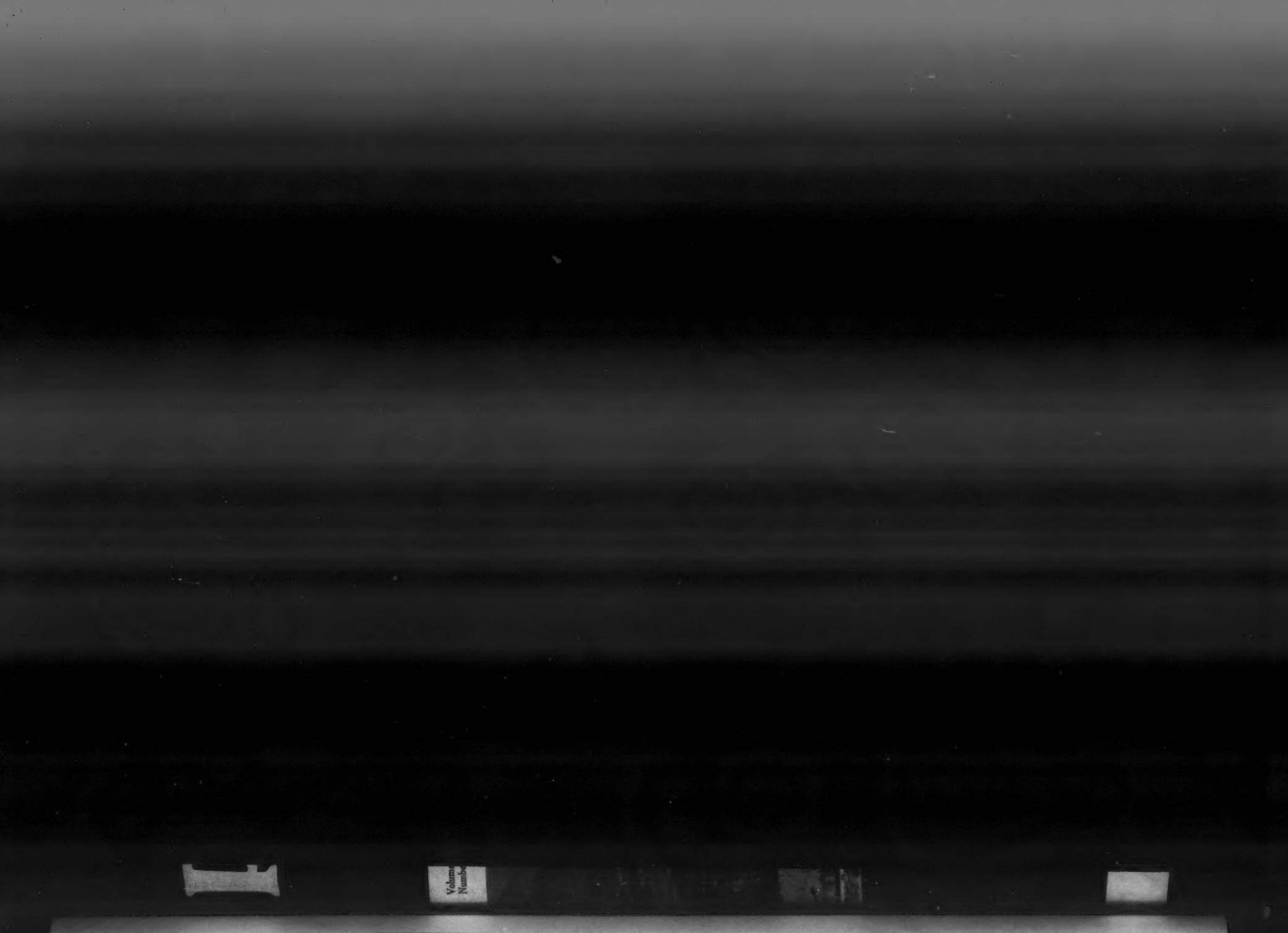
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